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FILE 'CAPLUS' ENTERED AT 16:49:29 ON 11 OCT 2007

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FILE COVERS 1907 - 11 Oct 2007 VOL 147 ISS 16

FILE LAST UPDATED: 10 Oct 2007 (20071010/ED)

Effective October 17, 2005, revised CAS Information Use Policies apply. They are available for your review at:

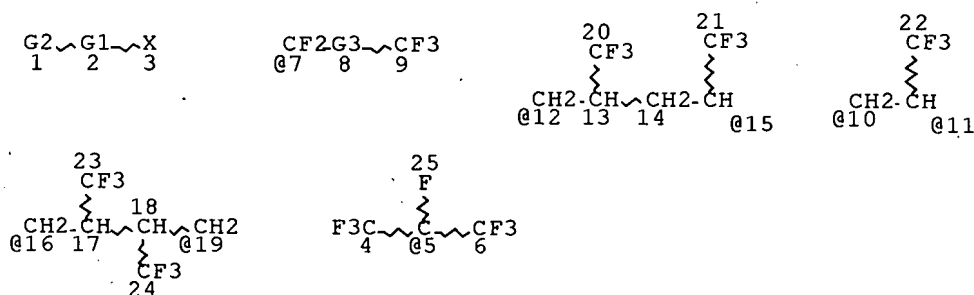
<http://www.cas.org/infopolicy.html>

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L1 STR



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VAR G2=5/7

REP G3=(0-10) CF_2

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 25

STEREO ATTRIBUTES: NONE

L3 STR



NODE ATTRIBUTES:

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DEFAULT ECLEVEL IS LIMITED

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NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

L4 93925 SEA FILE=REGISTRY SSS FUL L3

L6 10 SEA FILE=REGISTRY SUB=L4 SSS FUL L1

L7 18 SEA FILE=CAPLUS ABB=ON PLU=ON L6

=> d 17 ibib abs hitstr tot

L7 ANSWER 1 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:970014 CAPLUS Full-text

DOCUMENT NUMBER: 147:303543

TITLE: Azeotropic compositions comprising fluorinated compounds for cleaning applications

INVENTOR(S): Schweitzer, Melodie A.; Sievert, Allen Capron; Bartelt, Joan Ellen; Minor, Barbara Haviland

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 11pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007203045	A1	20070830	US 2007-712165	20070228
US 2007203046	A1	20070830	US 2007-712453	20070228
WO 2007100885	A2	20070907	WO 2007-US5242	20070228
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW				
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WO 2007100886	A2	20070907	WO 2007-US5243	20070228
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WO 2007100887 A2 20070907 WO 2007-US5244 20070228

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PRIORITY APPLN. INFO.:

US 2006-777350P P 20060228

AB Compns. comprising fluorinated olefins or fluorinated ketones, and at least one alc., halocarbon, hydrofluorocarbon, or fluoroether are azeotropic or azeotrope-like and thus useful in cleaning applications as a degreasing agent or defluxing agent for removing oils and/or other residues from a surface, e.g., from circuit boards.

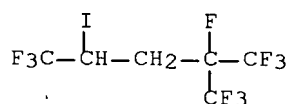
IT 922523-98-6P 935553-88-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(azeotropic compns. comprising fluorinated compds. for cleaning applications)

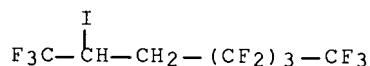
RN 922523-98-6 CAPLUS

CN Pentane, 1,1,1,2,5,5,5-heptafluoro-4-iodo-2-(trifluoromethyl)- (CA INDEX NAME)



RN 935553-88-1 CAPLUS

CN Heptane, 1,1,1,2,2,3,3,4,4,7,7,7-dodecafluoro-6-iodo- (CA INDEX NAME)



ACCESSION NUMBER: 2007:488744 CAPLUS Full-text
 DOCUMENT NUMBER: 146:482943
 TITLE: Blowing agents containing unsaturated fluorocarbons
 for manufacturing plastic foam
 INVENTOR(S): Creazzo, Joseph Anthony; Nappa, Mario Joseph; Sievert,
 Allen Capron; Swearingen, Ekaterina N.
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 19pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007100010	A1	20070503	US 2006-591350	20061101
US 2007100009	A1	20070503	US 2006-591349	20061101
US 2007100011	A1	20070503	US 2006-591400	20061101
US 2007102021	A1	20070510	US 2006-591401	20061101
US 2007105738	A1	20070510	US 2006-591650	20061101
WO 2007053670	A2	20070510	WO 2006-US42623	20061101
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WO 2007053672	A2	20070510	WO 2006-US42633	20061101
WO 2007053672	A3	20070628		
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 WO 2007053675 A2 20070510 WO 2006-US42636 20061101
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 KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.:

US 2005-732090P P 20051101

US 2005-732771P P 20051101

OTHER SOURCE(S): MARPAT 146:482943

AB The blowing agent, useful in foamable composition, comprises a unsatd. fluorocarbon and/or unsatd. hydrofluorocarbon. Also disclosed are methods for forming a foam comprising the aforementioned blowing agents.

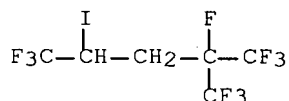
IT 922523-98-6P 935553-88-1P

RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)

(blowing agents containing unsatd. fluorocarbons for manufacturing plastic foam)

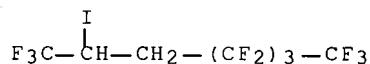
RN 922523-98-6 CAPLUS

CN Pentane, 1,1,1,2,5,5,5-heptafluoro-4-iodo-2-(trifluoromethyl)- (CA INDEX NAME)



RN 935553-88-1 CAPLUS

CN Heptane, 1,1,1,2,2,3,3,4,4,7,7,7-dodecafluoro-6-iodo- (CA INDEX NAME)



L7 ANSWER 3 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2007:484984 CAPLUS Full-text
 DOCUMENT NUMBER: 146:484033
 TITLE: Fire extinguishing and fire suppression compositions
 comprising unsaturated fluorocarbons
 INVENTOR(S): Nappa, Mario Joseph; Swearingen, Ekaterina N.;
 Sievert, Allen Capron
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 11pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007096051	A1	20070503	US 2006-590453	20061031
WO 2007053737	A2	20070510	WO 2006-US42772	20061101
WO 2007053737	A3	20070614		

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 KG, KZ, MD, RU, TJ, TM, AP, EA, EP, OA

PRIORITY APPLN. INFO.: US 2005-732396P P 20051101

OTHER SOURCE(S): MARPAT 146:484033

AB Fire extinguishing and flame suppression compds. are trans (E) or cis (Z)
 hydrofluoroalkenes, with formula R1CH=CHR2, in which R1 and R2 are C1-6-
 perfluoroalkyl groups (e.g., CF3, C2F5, (1- and 2-)-C3F7, all isomeric C4F9, -
 (CF2)4CF3, -CF2CF2CF(CF3)2, -C(CF3)2C2F5, and -(CF2)5CF3).

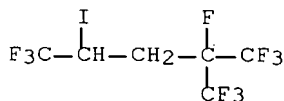
IT 922523-98-6P 935553-88-1P

RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); RACT (Reactant or reagent)

(synthesis and dehydroiodination of; hydrofluoroalkenes as candidate
 fire extinguishing and flame suppression agents)

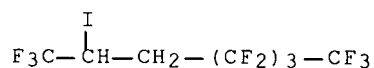
RN 922523-98-6 CAPLUS

CN Pentane, 1,1,1,2,5,5,5-heptafluoro-4-iodo-2-(trifluoromethyl)- (CA INDEX
 NAME)



RN 935553-88-1 CAPLUS

CN Heptane, 1,1,1,2,2,3,3,4,4,7,7,7-dodecafluoro-6-iodo- (CA INDEX NAME)



L7 ANSWER 4 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:119612 CAPLUS Full-text

DOCUMENT NUMBER: 146:206831

TITLE: Preparation of halogenated telomers

INVENTOR(S): Brandstadter, Stephan; Ameduri, Bruno; Kostov, George K.

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 7pp.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007027349	A1	20070201	US 2005-192832	20050728
WO 2007016359	A2	20070208	WO 2006-US29459	20060728
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RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
US 2007197769	A1	20070823	US 2007-784446	20070405
US 2007197840	A1	20070823	US 2007-784447	20070405
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OTHER SOURCE(S): MARPAT 146:206831

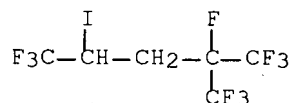
AB A halogenated composition comprises RF(RT)nQ, wherein: the RF group comprises ≥ 2 fluorine atoms, the RT group comprises ≥ 1 C-2 group, the C-2 group comprising a -CF₂- group and ≥ 1 pendant -CF₃ group, n is ≥ 1 , and the Q group comprises ≥ 1 atom of the periodic table of elements.

IT 922523-98-6P 922523-99-7P 922524-02-5P
922524-03-6P

RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of halogenated telomers)

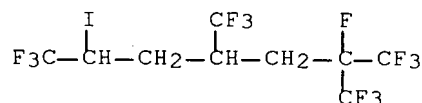
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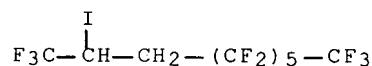
RN 922523-99-7 CAPLUS

CN Heptane, 1,1,1,2,7,7,7-heptafluoro-6-iodo-2,4-bis(trifluoromethyl)- (CA INDEX NAME)



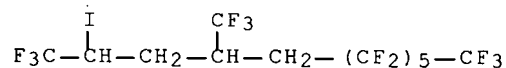
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CN Nonane, 1,1,1,2,2,3,3,4,4,5,5,6,6,9,9,9-hexadecafluoro-8-iodo- (CA INDEX NAME)



RN 922524-03-6 CAPLUS

CN Undecane, 1,1,1,2,2,3,3,4,4,5,5,6,6,11,11,11-hexadecafluoro-10-iodo-8-(trifluoromethyl)- (CA INDEX NAME)



L7 ANSWER 5 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2006:469480 CAPLUS Full-text

DOCUMENT NUMBER: 144:490632

TITLE: Processes for production and purification of hydrofluoroolefins

INVENTOR(S): Miller, Ralph Newton; Nappa, Mario Joseph; Rao, Velliyur Nott Mallikarjuna; Sievert, Allen Capron

PATENT ASSIGNEE(S): USA

SOURCE: U.S. Pat. Appl. Publ., 27 pp., Cont.-in-part of U.S. Ser. No. 259,901.

CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006106263	A1	20060518	US 2005-264183	20051101
US 2006094911	A1	20060504	US 2005-259901	20051027
EP 1805124	A2	20070711	EP 2005-819557	20051028
R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU				
WO 2007053178	A1	20070510	WO 2006-US13361	20060411
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				

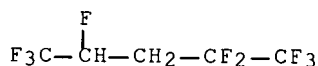
PRIORITY APPLN. INFO.:
US 2004-623210P P 20041029
US 2005-259901 A2 20051027
WO 2005-US39169 W 20051028
US 2005-264183 A 20051101

OTHER SOURCE(S): CASREACT 144:490632

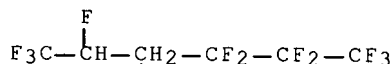
AB Hydrofluoroolefins are produced by dehydrofluorination of hydrofluorocarbons containing ≥ 1 H and ≥ 1 F on adjacent carbons, with the product mixture containing ≥ 1 of the hydrofluoroolefin and unreacted hydrofluorocarbon as an azeotrope with HF. The product mixts. are separated by distilling off the azeotropic or near-azeotropic mixture containing HF and hydrofluoroolefins and distilling this mixture in 2 steps at different pressures to sep. the components.

IT 141993-32-0, 1,1,1,2,4,4,5,5,5-Nonafluoropentane
142347-13-5, 1,1,1,2,2,3,3,5,6,6,6-Undecafluorohexane
142347-15-7, 1,1,1,2,2,3,3,4,4,6,7,7,7-Tridecafluoroheptane
RL: RCT (Reactant); RACT (Reactant or reagent)
of (production and purification of hydrofluoroolefins from dehydrofluorination of hydrofluorocarbons with azeotropic distillation)

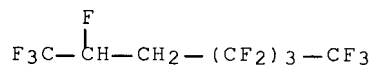
RN 141993-32-0 CAPLUS
CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



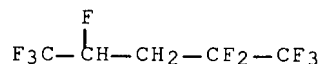
RN 142347-13-5 CAPLUS
CN Hexane, 1,1,1,2,2,3,3,5,6,6,6-undecafluoro- (9CI) (CA INDEX NAME)



RN 142347-15-7 CAPLUS
 CN Heptane, 1,1,1,2,2,3,3,4,4,6,7,7,7-tridecafluoro- (9CI) (CA INDEX NAME)



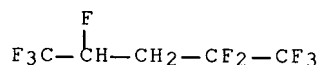
L7 ANSWER 6 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2004:434480 CAPLUS Full-text
 DOCUMENT NUMBER: 141:156797
 TITLE: 19F and 1H NMR spectra of halocarbons
 AUTHOR(S): Foris, Anthony
 CORPORATE SOURCE: Central Research & Development, Corporate Center for
 Analytical Science, DuPont, Wilmington, DE, 19880, USA
 SOURCE: Magnetic Resonance in Chemistry (2004), 42(6), 534-555
 CODEN: MRCHEG; ISSN: 0749-1581
 PUBLISHER: John Wiley & Sons Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB 19F NMR chemical shifts and coupling consts. are reported for 215 compds. For
 77 of these compds., 1H NMR spectral data are also given. Long-range
 couplings, including 8J(F,F) and 5J(F,H), are reported. The complexity of
 halocarbon spectra owing to the presence of rotational isomers, asym. centers,
 long-range couplings, and chlorine isotope effects are illustrated, and the
 methods used for analyzing such complex spectra are briefly discussed.
 IT 141993-32-0
 RL: PRP (Properties)
 (proton and fluorine-19 NMR spectra of halocarbons)
 RN 141993-32-0 CAPLUS
 CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 75 THERE ARE 75 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1999:640804 CAPLUS Full-text
 DOCUMENT NUMBER: 131:273393
 TITLE: Method for producing fluorinated saturated
 hydrocarbons
 INVENTOR(S): Yamada, Toshiro; Sugimoto, Tatsuya; Sugawara, Mitsuru
 PATENT ASSIGNEE(S): Nippon Zeon Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 26 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9950209	A1	19991007	WO 1999-JP1468	19990324
W: CN, KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 11286462	A	19991019	JP 1998-104145	19980331
PRIORITY APPLN. INFO.:		JP 1998-104145	A	19980331
AB	A fluorinated saturated hydrocarbon having a CH ₂ -CHF bond is produced (a) by providing a mixture of a fluorinated saturated hydrocarbon having a CHF-CHF bond and a fluorinated saturated having a CH ₂ -CHF bond as a feed stock, selectively dehydrofluorinating the fluorinated saturated hydrocarbon having a CHF-CHF bond in the stock and removing a fluorinated unsatd. hydrocarbon having a CHF=CF bond from the resulting reaction mixture by distillation, or, (b) by providing, as the above-mentioned stock, a mixture of the fluorinated hydrocarbons which have the same structure with respect to the moieties other than CHF-CHF and CH ₂ -CHF bonds, carrying out a dehydrofluorination in a way similar to (a), and hydrogenating the resulting reaction product without separating a fluorinating saturated hydrocarbon having a CH ₂ -CHF bond remaining unreacted in the reaction product.			
IT	141993-32-0P			
	RL: IMF (Industrial manufacture); PREP (Preparation)			
	(production of fluorinated saturated hydrocarbons by dehydrofluorination and hydrogenation)			
RN	141993-32-0 CAPLUS			
CN	Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)			



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 8 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1998:761865 CAPLUS Full-text
 DOCUMENT NUMBER: 130:15170
 TITLE: Fluorinated hydrocarbons, detergents, deterging method, polymer-containing fluids, and method of forming polymer films
 INVENTOR(S): Yamada, Toshirou; Goto, Kuniaki; Sugimoto, Tatsuya
 PATENT ASSIGNEE(S): Nippon Zeon Co., Ltd., Japan
 SOURCE: PCT Int. Appl., 81 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9851651	A1	19981119	WO 1998-JP2158	19980515
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				

JP 10316598	A	19981202	JP 1997-127591	19970516
JP 10316760	A	19981202	JP 1997-145891	19970520
EP 994089	A1	20000419	EP 1998-919622	19980515
R: DE, FR, GB				
TW 460439	B	20011021	TW 1998-87107603	19980516
US 6312759	B1	20011106	US 2000-423899	20000413
PRIORITY APPLN. INFO.:			JP 1997-127591	A 19970516
			JP 1997-145891	A 19970520
			WO 1998-JP2158	W 19980515

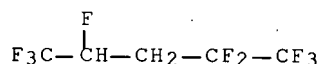
OTHER SOURCE(S): MARPAT 130:15170

AB Incombustible fluorinated hydrocarbons, having excellent detergency and stabilities to alkalis, water and heat, contain $\geq 95\%$ of trihydrofluorocarbons Rf1-R1-Rf2 (R1 = carbon chain composed of CHF and CH₂; Rf1, Rf2 = perfluoroalkyl, or Rf1 and Rf2 are bonded together to form a ring). Polymer-containing fluids are obtained by dissolving or dispersing a film-forming polymer, preferably a fluoropolymer in a solvent containing a trihydrofluorocarbon.

IT 141993-32-0P, Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro-
 RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
 (fluorinated saturated hydrocarbon compns. as detergents and solvents for forming polymer films)

RN 141993-32-0 CAPLUS

CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:761864 CAPLUS Full-text

DOCUMENT NUMBER: 130:3604

TITLE: Preparation of fluorinated, saturated hydrocarbons as detergents and solvents

INVENTOR(S): Sekiya, Akira; Yamada, Toshirou; Uruma, Takashi; Sugimoto, Tatsuya

PATENT ASSIGNEE(S): Japan, Agency of Industrial Science and Technology, Japan; Nippon Zeon Co., Ltd.

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9851650	A1	19981119	WO 1998-JP2157	19980515
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 10316597	A	19981202	JP 1997-125906	19970515
EP 982281	A1	20000301	EP 1998-919621	19980515
R: DE, FR, GB				

US 6403846 B1 20020611 US 2000-423747 20000203
 PRIORITY APPLN. INFO.: JP 1997-125906 A 19970515
 WO 1998-JP2157 W 19980515

OTHER SOURCE(S): MARPAT 130:3604

AB This document discloses compns. comprising linear or cyclic fluorinated, saturated hydrocarbons of the following general formulas Rf1RlRf2 (I) and Rf1R2Rf2 (II). For said hydrocarbons, Rl is a carbon chain composed of CHF and CH2; Rf1 and Rf2 are each perfluoroalkyl, fluorine or hydrogen with the proviso that at least one of them is perfluoroalkyl, or Rf1 and Rf2 are bonded together to form a ring containing a perfluoroalkylene chain; and R2 is a carbon chain composed of CH2 and CH2, with the proviso that the skeletons of the compds. of the formulas I and II are the same. Each composition comprises more than 10 mol % and less than 95 mol % of a compound of the general formula I and the balance of a compound of the general formula II. These compns. have an excellent chemical stability and a high safety for the living bodies, do not deplete the ozoneosphere, and are useful as detergents, solvents, etc. A mixture of heptafluorocyclopentane: hexafluorocyclopentane (60:40 mol ratio) (80 weight%) and ethanol (20 weight%) showed excellent detergent power.

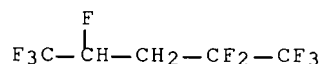
IT 141993-32-0P

RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of fluorinated, saturated hydrocarbons as detergents and solvents)

RN 141993-32-0 CAPLUS

CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1998:761863 CAPLUS Full-text

DOCUMENT NUMBER: 130:15169

TITLE: Fluorinated saturated hydrocarbons, compositions thereof, polymer-containing fluid, and method of forming polymer films

INVENTOR(S): Yamada, Toshirou; Uruma, Takashi; Goto, Kuniaki

PATENT ASSIGNEE(S): Nippon Zeon Co., Ltd., Japan

SOURCE: PCT Int. Appl., 55 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 2

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9851649	A1	19981119	WO 1998-JP2156	19980515
W: KR, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
JP 10316596	A	19981202	JP 1997-125905	19970515
JP 10316760	A	19981202	JP 1997-145891	19970520
PRIORITY APPLN. INFO.:			JP 1997-125905	A 19970515
			JP 1997-145891	A 19970520

OTHER SOURCE(S): MARPAT 130:15169

AB Compns. comprise linear or cyclic fluorinated saturated hydrocarbons containing 10-95 mol% trihydrofluorohydrocarbons Rf1-R1-Rf2 (I) and the balance of dihydrofluorohydrocarbons Rf1-R2-Rf2 (II) (R1 = carbon chain composed of CHF and CH2; Rf1, Rf2 = perfluoroalkyl, F or H with the proviso that ≥1 of them is perfluoroalkyl, or Rf1 and Rf2 are bonded together to form a ring containing a perfluoroalkylene chain; R2 = carbon chain composed of CHF and CHF, with the proviso that the skeletons of the compds. I and II are the same). These compns. have an excellent chemical stability and a high safety for the living bodies, do not deplete the ozonosphere, and are usable for forming solvents for polymers, particularly for forming polymer films.

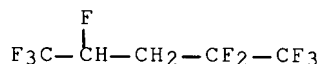
IT 141993-32-0P, 1,1,1,2,2,4,5,5,5-Nonafluoropentane

RL: IMF (Industrial manufacture); PRP (Properties); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(fluorinated saturated hydrocarbon compns. as detergents and solvents for forming polymer films)

RN 141993-32-0 CAPLUS

CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1997:238342 CAPLUS Full-text

DOCUMENT NUMBER: 126:227147

TITLE: Azeotrope-like mixtures of pentafluoropropane and hydrofluorocarbon having 3-6 carbon atoms useful as heat-transfer agents and/or refrigerants

INVENTOR(S): Wilson, David Paul; Singh, Rajiv Ratna; Basu, Rajat Subhra; Swan, Ellen Louise; Nalewajek, David

PATENT ASSIGNEE(S): Electric Power Research Institute, USA

SOURCE: PCT Int. Appl., 71 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9705211	A1	19970213	WO 1996-US12340	19960726
W: AL, AU, BB, BG, BR, CA, CN, CZ, EE, ES, GE, HU, IL, IS, JP, KG, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, TR, TT, UA, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5800729	A	19980901	US 1996-685821	19960725
CA 2227915	A1	19970213	CA 1996-2227915	19960726
AU 9666023	A	19970226	AU 1996-66023	19960726
EP 840768	A1	19980513	EP 1996-925538	19960726
EP 840768	B1	20010328		
R: DE, ES, FR, GB, IT				

JP 2001509180	T	20010710	JP 1997-507798	19960726
ES 2158326	T3	20010901	ES 1996-925538	19960726
TW 419517	B	20010121	TW 1997-86103511	19970320
US 6423757	B1	20020723	US 1998-233721	19980831
US 6557359	B1	20030506	US 1998-271043	19980831
PRIORITY APPLN. INFO.:			US 1995-1530P	P 19950726
			US 1996-685821	A 19960725
			WO 1996-US12340	W 19960726

AB The mixture comprises pentafluoropropane and a hydrofluorocarbon C_xF_yH_z, where x is 3, 4, 5, or 6 and y and z are each independently 1 or a pos. whole number such that the y/(y + z) ratio is >0.67.

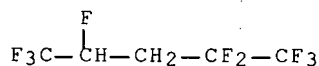
IT 141993-32-0 142347-13-5

RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)

(azeotrope-like mixts. with pentafluoropropane as heat-transfer agents and/or refrigerants)

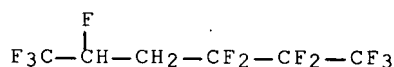
RN 141993-32-0 CAPLUS

CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



RN 142347-13-5 CAPLUS

CN Hexane, 1,1,1,2,2,3,3,5,6,6,6-undecafluoro- (9CI) (CA INDEX NAME)



L7 ANSWER 12 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:980960 CAPLUS Full-text

DOCUMENT NUMBER: 124:32444

TITLE: Preparation and properties of some polyfluorinated pentanes

AUTHOR(S): Bispen, T. A.; Borutskaya, G. V.; Mikhailova, T. V.; Moldavskii, D. D.; Furin, G. G.

CORPORATE SOURCE: RNTs "Prikladnaya Khimiya", St. Petersburg, Russia
SOURCE: Zhurnal Prikladnoi Khimii (Sankt-Peterburg) (1995), 68(5), 793-6

CODEN: ZPKHAB; ISSN: 0044-4618

PUBLISHER: Nauka

DOCUMENT TYPE: Journal

LANGUAGE: Russian

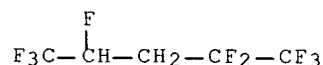
AB SbF₅ was used as a catalyst in reaction of hexafluoropropylene with tetrafluoroethylene to prepare perfluoro-2-pentene. Perfluoro-2-pentene was hydrogenated or fluorinated over Pd catalyst to prepare polyfluorinated pentane refrigerants.

IT 141993-32-0P, 2,3,3-Trihydroperfluoropentane

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of polyfluorinated pentane refrigerants)

RN 141993-32-0 CAPLUS

CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



L7 ANSWER 13 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1995:926229 CAPLUS Full-text
 DOCUMENT NUMBER: 123:317608
 TITLE: Hydrofluoroalkanes as cleaning and degreasing solvents
 INVENTOR(S): Van Der Puy, Michael; Basu, Rajat Subhra; Nalewajek, David; Ellis, Lois Anne
 PATENT ASSIGNEE(S): AlliedSignal Inc., USA
 SOURCE: PCT Int. Appl., 24 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9519947	A1	19950727	WO 1995-US679	19950119
W: AM, AU, BB, BG, BR, BY, CA, CN, CZ, EE, FI, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LV, MD, MG, MN, MW, MX, NO, NZ, PL, RO, RU, SD, SI, SK, TJ, TT, UA, UZ, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5696307	A	19971209	US 1994-184810	19940121
CA 2180343	A1	19950727	CA 1995-2180343	19950119
AU 9516826	A	19950808	AU 1995-16826	19950119
EP 740647	A1	19961106	EP 1995-908552	19950119
R: DE, ES, FR, GB, IT				
CN 1140445	A	19970115	CN 1995-191281	19950119
JP 09508165	T	19970819	JP 1995-519636	19950119
PRIORITY APPLN. INFO.:			US 1994-184810	A 19940121
			WO 1995-US679	W 19950119

OTHER SOURCE(S): MARPAT 123:317608

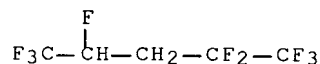
AB Hydrofluoroalkanes, especially butanes, pentanes, and hexanes, such as CF₃CF₂CH₂CH₂F, are useful as solvents, especially for vapor degreasing and solvent cleaning.

IT 141993-32-0 142347-13-5

RL: TEM (Technical or engineered material use); USES (Uses)
 (hydrofluoroalkanes, especially butanes, pentanes, and hexanes, as cleaning and degreasing solvents)

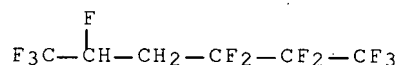
RN 141993-32-0 CAPLUS

CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



RN 142347-13-5 CAPLUS

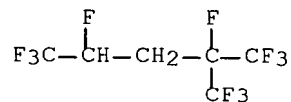
CN Hexane, 1,1,1,2,2,3,3,5,6,6,6-undecafluoro- (9CI) (CA INDEX NAME)



L7 ANSWER 14 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:608420 CAPLUS Full-text
 DOCUMENT NUMBER: 121:208420
 TITLE: Use of nonflammable extensively fluorinated compounds
 as heat-transfer agents
 INVENTOR(S): Becker, Wilfried
 PATENT ASSIGNEE(S): Hoechst A.-G., Germany
 SOURCE: Ger. Offen., 3 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 4305239	A1	19940825	DE 1993-4305239	19930220
EP 612825	A1	19940831	EP 1994-102263	19940215
EP 612825	B1	20011010		
R: AT, BE, CH, DE, ES, FR, GB, IT, LI, NL, SE				
AT 206741	T	20011015	AT 1994-102263	19940215
ES 2165369	T3	20020316	ES 1994-102263	19940215
CA 2115984	A1	19940821	CA 1994-2115984	19940218
CA 2115984	C	20060502		
JP 06287550	A	19941011	JP 1994-21468	19940218
JP 2005047926	A	20050224	JP 2004-263005	20040909
PRIORITY APPLN. INFO.:			DE 1993-4305239	A 19930220
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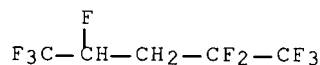
AB The agents are extensively fluorinated C₂3 alkanes and/or dialkyl ethers. The agents can be used with flammable liqs. selected from low hydrocarbons, dialkyl ethers, or alcs.
 IT 158200-40-9
 RL: TEM (Technical or engineered material use); USES (Uses)
 (nonflammable heat-transfer agent containing)
 RN 158200-40-9 CAPLUS
 CN Pentane, 1,1,1,2,4,5,5,5-octafluoro-2-(trifluoromethyl)- (9CI) (CA INDEX NAME)



L7 ANSWER 15 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:274468 CAPLUS Full-text

DOCUMENT NUMBER: 120:274468
 TITLE: Solvent compositions for dehydration
 INVENTOR(S): Kikuchi, Hideaki; Ogawa, Motosuke
 PATENT ASSIGNEE(S): Du Pont-Mitsui Fluorochemicals Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 06007610	A	19940118	JP 1992-192788	19920629
JP 3268506	B2	20020325		
PRIORITY APPLN. INFO.:			JP 1992-192788	19920629
OTHER SOURCE(S): MARPAT 120:274468				
AB The compns. contain $C_nH_mF_{2n+2-m}$ ($4 \leq n \leq 6$; $1 \leq m \leq 4$), preferably at 5-20%, and $CH_2(OMe)_2$. Preferably, $C_nH_mF_{2n+2-m}$ are octafluorobutane, nonafluoropentane, decafluoropentane, undecafluorohexane, and/or dodecafluorohexane. The compns. are useful for dehydration of metal parts, plastic parts, or glass parts after water washing.				
IT 141993-32-0 RL: USES (Uses) (solvent compds. containing dimethoxymethane and, for dehydration)				
RN 141993-32-0 CAPLUS				
CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)				



L7 ANSWER 16 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:54176 CAPLUS Full-text
 DOCUMENT NUMBER: 120:54176
 TITLE: 1,1,1,2,2,5,5,5-octafluoropentane and production thereof
 INVENTOR(S): Aoyama, Hirokazu; Seki, Eiji; Koyama, Satoshi
 PATENT ASSIGNEE(S): Daikin Industries, Ltd., Japan
 SOURCE: PCT Int. Appl., 28 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

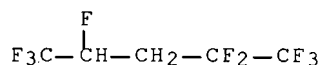
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9316023	A1	19930819	WO 1993-JP116	19930201
W: JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
PRIORITY APPLN. INFO.:			JP 1992-21089	A 19920206
			JP 1992-44137	A 19920229
			JP 1992-79226	A 19920229
			JP 1992-84616	A 19920306
OTHER SOURCE(S): CASREACT 120:54176				

AB The title compound (I), useful as a substitute for chlorofluorocarbons (no data) was prepared by hydrogenation of decafluoro-2-pentene (II) in the presence of a catalyst. Hydrogenation of II in the presence of Pt under hydrogen at 300° gave I with 90% selectivity for I.

IT 141993-32-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and defluorination of)

RN 141993-32-0 CAPLUS

CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



L7 ANSWER 17 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1992:633426 CAPLUS Full-text

DOCUMENT NUMBER: 117:233426

TITLE: Saturated linear polyfluorohydrocarbons, processes for their production, and their use in cleaning compositions

INVENTOR(S): Krespan, Carl George; Rao, Velliyur Nott Mallikarjuna

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA

SOURCE: PCT Int. Appl., 39 pp.
 CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9206941	A1	19920430	WO 1991-US7240	19911010
W: AU, BR, CA, JP, KR, SU				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
US 5171902	A	19921215	US 1990-595840	19901011
IN 177086	A1	19961102	IN 1991-CA752	19911007
AU 9187644	A	19920520	AU 1991-87644	19911010
EP 552252	A1	19930728	EP 1991-918761	19911010
EP 552252	B1	19960619		
R: DE, ES, FR, GB, IT, NL				
JP 05508418	T	19931125	JP 1991-517939	19911010
JP 3162379	B2	20010425		
ES 2089238	T3	19961001	ES 1991-918761	19911010
RU 2073664	C1	19970220	RU 1991-5011297	19911010
CN 1060461	A	19920422	CN 1991-109641	19911011
CN 1033320	B	19961120		
ZA 9108127	A	19930413	ZA 1991-8127	19911011
US 5504265	A	19960402	US 1992-919454	19920727
US 5683978	A	19971104	US 1995-460020	19950602
US 5723701	A	19980303	US 1995-460021	19950602
US 6506950	B1	20030114	US 1995-458331	19950602
CN 1139152	A	19970101	CN 1996-101528	19960115
CN 1057331	B	20001011		
PRIORITY APPLN. INFO.:			US 1990-595840	A 19901011
			WO 1991-US7240	A 19911010

US 1992-919454

A3 19920727

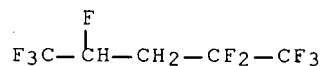
AB Title compds., e.g., CF₃CHFCHFCF₂CF₃, CF₃CF₂CHFCH₂CF₂CF₃, CF₃CF₂CH₂CHFCH₂CF₂CF₃, were prepared. Thus, a mixture of AlF_{2.8} Cl_{0.2}, hexafluoropropene, and tetrafluoroethylene was shaken at -20 to 20° in a metal tube to give 70% CF₃CF:CFCH₂CF₃. The latter in EtOH was hydrogenated over 5% Pd/C under 50 psi H to give .apprx. 82 weight% CF₃CH₂CHFCH₂CF₃/CF₃CHFCH₂CF₂CF₃ and .apprx. 18 weight% CF₃CHFCHFCF₂CF₃.

IT 141993-32-0P 142347-13-5P 142347-15-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, as solvent)

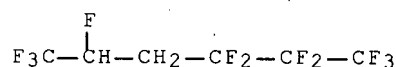
RN 141993-32-0 CAPLUS

CN Pentane, 1,1,1,2,2,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)



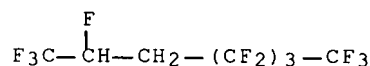
RN 142347-13-5 CAPLUS

CN Hexane, 1,1,1,2,2,3,3,5,6,6,6-undecafluoro- (9CI) (CA INDEX NAME)



RN 142347-15-7 CAPLUS

CN Heptane, 1,1,1,2,2,3,3,4,4,6,7,7,7-tridecafluoro- (9CI) (CA INDEX NAME)



L7 ANSWER 18 OF 18 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1992:410365 CAPLUS Full-text

DOCUMENT NUMBER: 117:10365

TITLE: Binary azeotropic compositions of polyfluoropentanes and methanol

INVENTOR(S): Merchant, Abid N.

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA

SOURCE: U.S., 4 pp. Cont.-in-part of U.S. Ser. No. 592,565.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5100572	A	19920331	US 1991-723312	19910628
US 5531916	A	19960702	US 1993-135242	19931013

US 5824634
PRIORITY APPLN. INFO.:

A

19981020

US 1996-674707

19960702

US 1990-592565

A2 19901003

US 1990-595833

A2 19901011

US 1990-595834

A2 19901011

US 1991-723312

A2 19910628

US 1991-787998

B1 19911107

US 1993-135242

A1 19931013

AB Azeotropic mixts. of 3-13% MeOH and 87-97% mixture of 2,2,3-trihydroperfluoropentane .apprx.80, 2,3-dihydroperfluoropentane .apprx.15, and 2,3,3-trihydroperfluoropentane .apprx.5% are useful as cleaning agents (especially for printed circuit boards), blowing agents, refrigerants, heat transfer media, etc.

IT 141993-33-1

RL: USES (Uses)

(azeotropic, as cleaning solvents, blowing agents and refrigerants)

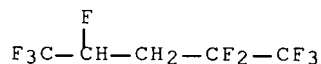
RN 141993-33-1 CAPLUS

CN Methanol, mixt. with 1,1,1,2,2,3,4,5,5,5-decafluoropentane, 1,1,1,2,2,3,5,5,5-nonafluoropentane and 1,1,1,2,2,4,5,5,5-nonafluoropentane (9CI) (CA INDEX NAME)

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CRN 141993-32-0

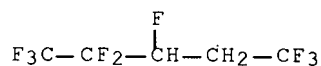
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CM 2

CRN 141993-31-9

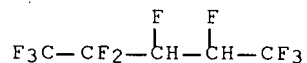
CMF C5 H3 F9



CM 3

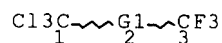
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CMF C5 H2 F10



CRN 67-56-1
CMF C H4 O

=> d que l17
L10 STR



GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 3

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L13      58 SEA FILE=REGISTRY ABB=ON  PLU=ON  L12 AND F>5
L14      13 SEA FILE=REGISTRY ABB=ON  PLU=ON  L13 AND (C/ELS AND H/ELS AND
          F/ELS AND CL/ELS AND 4/ELC.SUB)
L15      24 SEA FILE=REGISTRY ABB=ON  PLU=ON  L13 AND (C/ELS AND F/ELS AND
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L16      37 SEA FILE=REGISTRY ABB=ON  PLU=ON  L14 OR L15
L17      42 SEA FILE=CAPLUS ABB=ON  PLU=ON  L16

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L17 ANSWER 1 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:951701 CAPLUS Full-text
DOCUMENT NUMBER: 144:488091
TITLE: Ortho acid derivatives. Trihalomethyl compounds
AUTHOR(S): Prakash, G. K. S.; Hu, J.
CORPORATE SOURCE: Department of Chemistry, University of Southern
California, Los Angeles, CA, 90089-1661, USA
SOURCE: Science of Synthesis (2005), 22, 617-668
CODEN: SSCYJ9
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review of the preparation and synthetic applications of trihalomethyl
comps.
IT 307-28-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and synthetic applications of trihalomethyl comps.)

RN 307-28-8 CAPLUS
 CN Hexane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,6-undecafluoro- (9CI) (CA INDEX NAME)

C13C—(CF2)4—CF3

REFERENCE COUNT: 219 THERE ARE 219 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L17 ANSWER 2 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1995:365170 CAPLUS Full-text

DOCUMENT NUMBER: 122:290297

TITLE: Synthetic utility of 3-(perfluoro-1,1-dimethylbutyl)prop-1-ene. Part VI . A free-radical addition of CCl4 and CBr4 and dehydrohalogenation of the adducts

AUTHOR(S): Plenkiewicz, Halina; Dmowski, Wojciech

CORPORATE SOURCE: Institute of Organic Chemistry, Polish Academy of Sciences, Warsaw, 01-224, Pol.

SOURCE: Journal of Fluorine Chemistry (1995), 70(2), 259-64
 CODEN: JFLCAR; ISSN: 0022-1139

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 122:290297

AB Heating the title compound 1 in excess CCl4 and in the presence of a free-radical initiator (t-Bu peroxide) at 120 ° afforded 1,1,1,3-tetrachloro-4-(perfluoro-1,1-dimethylbutyl)butane (2) as the main product together with considerable amts. of cyclic dimer, 1,4-bis(perfluoro-1,1-dimethylbutyl)cyclohexane (3). Reaction of 1 with CBr4 at 120 °C gave 1,1,1,3-tetrabromo-4-(perfluoro-1,1-dimethylbutyl)butane (4) as the sole product while at 220 ° a mixture of 1,2-dibromo-3-(perfluoro-1,1-dimethylbutyl)propane (5) and 1,1-dibromo-4-(perfluoro-1,1-dimethylbutyl)buta-1,3-diene (6) was formed. Treatment of adducts 2 and 4 with methanolic potassium hydroxide at ambient temperature gave mixts. of 1,1,3-trihalo-4-(perfluoro-1,1-dimethylbutyl)but-1-enes (7; chloro) or (8; bromo) and 1,1-dihalo-4-(perfluoro-1,1-dimethylbutyl)buta-1,3-dienes (9; chloro) or (6; bromo) in ratios depending on the adduct to base ratio and on the reaction conditions. Using an excess of the base and reflux temperature, adduct 9 and diene 6 were converted into Me 4-(perfluoro-1,1-dimethylbutyl)buten-3-oate .

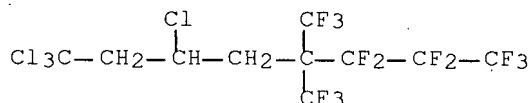
IT 119285-90-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(radical addition of CCl4 and CBr4 to perfluorodimethylbutylpropene and dehydrohalogenation of the adducts)

RN 119285-90-4 CAPLUS

CN Octane, 6,8,8,8-tetrachloro-1,1,1,2,2,3,3-heptafluoro-4,4-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



L17 ANSWER 3 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:280365 CAPLUS Full-text
 DOCUMENT NUMBER: 120:280365
 TITLE: Method and apparatus for extracorporeal separation of
 fluorochemicals from whole blood of a patient
 INVENTOR(S): Richard, Thomas J.; Schoendorfer, Donald W.; Kaufman,
 Robert J.; Goodin, Thomas H.
 PATENT ASSIGNEE(S): Hemagen/PFC, USA; Baxter Health Care Corp.
 SOURCE: PCT Int. Appl., 42 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9324158	A1	19931209	WO 1993-US5023	19930526
W: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, VN				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
US 5295953	A	19940322	US 1992-888987	19920526
AU 9345237	A	19931230	AU 1993-45237	19930526
EP 642364	A1	19950315	EP 1993-915139	19930526
EP 642364	B1	19970319		
R: AT, BE, CH, DE, DK, FR, GB, IT, LI, LU, NL, SE				
AT 150323	T	19970415	AT 1993-915139	19930526
PRIORITY APPLN. INFO.:			US 1992-888987	A 19920526
			WO 1993-US5023	A 19930526

AB Methods and apparatus for practical extracorporeal separation of fluorochems. from clin. fluorochem.-containing whole blood of a patient are disclosed. The methods incorporate centrifugal apheresis devices, preferably with low extracorporeal vols., that provide a means for continuously removing separated fluorochem.-enriched fractions from the centrifuge during processing and return of whole blood-enriched fractions to the patient. A dog was made anemic by successive blood exchange with NaCl solution over a 4-day period and was then infused 1 wk later with 40 mL/kg of an emulsion containing 1.75 weight/volume% lecithin, 2 weight/volume% oil and 40 volume/volume% perfluorooctyl bromide. The dog was connected to the invention device and its blood was processed for 2 h after which its fluorocrit decreased by 79%.

IT 88639-56-9

RL: USES (Uses)

(whole blood containing, extracorporeal separation of, with centrifugal apheresis device)

RN 88639-56-9 CAPLUS

CN Heptane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro- (9CI)
 (CA INDEX NAME)

F₃C—(CF₂)₅—CCl₃

L17 ANSWER 4 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1994:111270 CAPLUS Full-text
 DOCUMENT NUMBER: 120:111270
 TITLE: Prediction of viscosities using chemical graph theory
 AUTHOR(S): Pitzer, Edward W.
 CORPORATE SOURCE: Wright Lab., Wright-Patterson AFB, OH, 45433-6563, USA
 SOURCE: Tribology Transactions (1993), 36(3), 417-20
 CODEN: TRTRE4; ISSN: 1040-2004
 DOCUMENT TYPE: Journal
 LANGUAGE: English

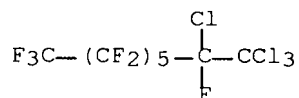
AB The viscosities of three groups of lubricant basestock mols. were predicted using chemical graph theory. Alkyl di-Ph phosphates, trimethyloethane esters, and oligomers of chlorotrifluoroethylene were modeled. A graph theor. approach for the modeling of these compds. used summations of the shortest topol. distances between atoms in the mol. A new topol. index was introduced that wts. chlorine mols. in the chlorotrifluoroethylene oligomers. For each group modeled, the coefficient of determination r² was >0.99 with a standard error of estimate «5% of the average value modeled.

IT 88639-57-0 135941-32-1
 RL: PRP (Properties)
 (viscosity of, prediction of, by chemical graph theory, as model lubricating oil)

RN 88639-57-0 CAPLUS
 CN Octane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro- (9CI) (CA INDEX NAME)

Cl₃C—(CF₂)₆—CF₃

RN 135941-32-1 CAPLUS
 CN Octane, 1,1,1,2-tetrachloro-2,3,3,4,4,5,5,6,6,7,7,8,8,8-tetradecafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 5 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1992:469439 CAPLUS Full-text
 DOCUMENT NUMBER: 117:69439
 TITLE: Process for production of polyfluoroolefins via aluminum halide-catalyzed coupling of polyfluoroallylic fluorides with polyfluoroethylenes
 INVENTOR(S): Krespan, Carl George

PATENT ASSIGNEE(S): du Pont de Nemours, E. I., and Co., USA
 SOURCE: PCT Int. Appl., 26 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9206942	A1	19920430	WO 1991-US7242	19911010
W: AU, BR, CA, JP, KR, SU				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
US 5162594	A	19921110	US 1991-776652	19911004
IN 177095	A1	19961109	IN 1991-CA762	19911009
AU 9190281	A	19920520	AU 1991-90281	19911010
EP 552303	A1	19930728	EP 1991-920551	19911010
EP 552303	B1	19950614		
R: DE, ES, FR, GB, IT, NL				
JP 07502254	T	19950309	JP 1991-518539	19911010
JP 3162380	B2	20010425		
ES 2074736	T3	19950916	ES 1991-920551	19911010
RU 2093502	C1	19971020	RU 1991-5011268	19911010
CN 1061399	A	19920527	CN 1991-110828	19911011
CN 1030908	B	19960207		
ZA 9108128	A	19930413	ZA 1991-8128	19911011
US 5220082	A	19930615	US 1992-904263	19920625
US 5276221	A	19940104	US 1993-63379	19930125
PRIORITY APPLN. INFO.:			US 1990-595839	A 19901011
			US 1991-771677	A 19911004
			US 1991-776652	A 19911004
			WO 1991-US7242	A 19911010
			US 1992-904263	A3 19920625

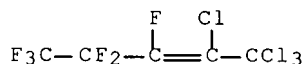
OTHER SOURCE(S): CASREACT 117:69439; MARPAT 117:69439

AB C₂5 polyfluoroolefins were prepared by reaction of R₁R₂C:CR₃CF₂R₄ [R₁, R₂ = H, F, Cl, R₆; R₃ = H, F, Cl; R₄ = F, R₆; R₂R₄ = (CF₂)_n; n = 1-3; R₆ = C₂-12 perfluoroalkyl optionally containing 1 H or 1 Cl] with R₅FC:CF₂ (R₅ = H, F, Cl) in the presence of AlX₁X₂X₃ catalyst (X₁-X₃ = F, Cl, Br; X₁, X₂, X₃ cannot all = F). Thus, a metal tube was charged at -20° with AlF₂-8Cl₁₀-2 (prepared from AlCl₃ and CFCl₃), F₃CCH:CH₂, and F₂C:CF₂ and the sealed tube was shaken 30 min to give 70% F(CF₂)₂CF:CFCF₃ as an 89:1 trans/cis mixture

IT 142558-15-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 142558-15-4 CAPLUS

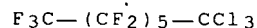
CN 2-Pentene, 1,1,1,2-tetrachloro-3,4,4,5,5,5-hexafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 6 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1992:425879 CAPLUS Full-text
 DOCUMENT NUMBER: 117:25879
 TITLE: Chlorotrifluoroethylene-derived fluids. I. Model

compound synthesis
 AUTHOR(S): Paciorek, K. J. L.; Kratzer, R. H.; Nakahara, J. H.;
 Lin, W. H.; Johri, K. K.
 CORPORATE SOURCE: Ultrasyst. Def., Inc., Irvine, CA, 92715-1324, USA
 SOURCE: Journal of Fluorine Chemistry (1991), 55(3), 271-82
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 117:25879

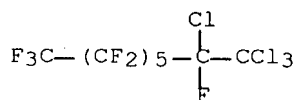
AB A series of chlorofluoroalkanes having chlorines on adjacent carbon atoms was prepared, i.e. n-C5F11CFC1CCl3, n-C6F13CFC1CCl3, n-C5F11CFC1CFC12, n-C6F13CFC1CFC12, n-C5F11CFC1CF2Cl, n-C2F5CFC1CFC1C3F7 and n-CF3CFC1CFC1C4F9, by a combination of halogen exchange, dehalogenation and chlorine addition reactions. An attempt to synthesize n-C6F13CFC1CF2CFC12 by the coupling of n-C6F13CFC1I with an excess of ICF2CFC12 under UV radiation in the presence of Hg gave only n-C6F13CFC1CFC1C6F13 together with CFC12CF2CF2CFC12. Under parallel conditions from n-C6F13CFC1I and CF2ClCFC1I, n-C6F13CFC1CFC1CF2Cl was obtained in 48% yield. Telomers of chlorotrifluoroethylene have potential uses as hydraulic fluids (no data).
 IT 88639-56-9P, 1,1,1-Trichloroperfluoroheptane 88639-57-0P
 , 1,1,1-Trichloroperfluorooctane
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and dehalogenation of)
 RN 88639-56-9 CAPLUS
 CN Heptane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro- (9CI)
 (CA INDEX NAME)



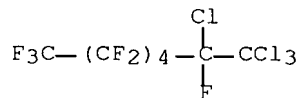
RN 88639-57-0 CAPLUS
 CN Octane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro- (9CI) (CA INDEX NAME)



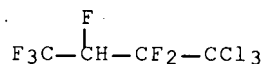
IT 135941-32-1P, 1,1,1,2-Tetrachloroperfluorooctane
 141603-13-6P, 1,1,1,2-Tetrachloroperfluoroheptane
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (preparation and regioselective dechlorination of)
 RN 135941-32-1 CAPLUS
 CN Octane, 1,1,1,2-tetrachloro-2,3,3,4,4,5,5,6,6,7,7,8,8,8-tetradecafluoro- (9CI) (CA INDEX NAME)



RN 141603-13-6 CAPLUS
 CN Heptane, 1,1,1,2-tetrachloro-2,3,3,4,4,5,5,6,6,7,7,7-dodecafluoro- (9CI)
 (CA INDEX NAME)



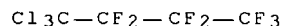
L17 ANSWER 7 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1992:255210 CAPLUS Full-text
 DOCUMENT NUMBER: 116:255210
 TITLE: Condensation of chloroform with fluoro alkenes in basic media
 AUTHOR(S): Nguyen, Thoai; Wakselman, Claude
 CORPORATE SOURCE: CERCOA, CNRS, Thiais, 94320, Fr.
 SOURCE: Journal of Fluorine Chemistry (1991), 55(3), 241-8
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal
 LANGUAGE: French
 OTHER SOURCE(S): CASREACT 116:255210
 AB The condensation of CHCl_3 with $\text{CF}_3\text{CF}=\text{CF}_2$ under phase-transfer catalysis leads mainly to $\text{CF}_3\text{CHF}(\text{CF}_2)\text{CCl}_2$ (1a). In the case of $\text{CF}_2=\text{CFCl}$, a cyclopropane adduct 3b is obtained along with $\text{CHCl}(\text{CF}_2)\text{CCl}_2$ (1b). The yields of adducts 1a, b or 3b are ca. 30%.
 IT 58705-96-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 58705-96-7 CAPLUS
 CN Butane, 1,1,1-trichloro-2,2,3,4,4,4-hexafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 8 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1992:255167 CAPLUS Full-text
 DOCUMENT NUMBER: 116:255167
 TITLE: Preparation of hydrogen-containing chlorofluorocarbons
 INVENTOR(S): Morikawa, Shinsuke; Samejima, Shunichi; Yoshitake, Masaru; Onishi, Keiichi; Tatematsu, Shin
 PATENT ASSIGNEE(S): Asahi Glass Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 04029944	A	19920131	JP 1990-133997	19900525
JP 2760136	B2	19980528		
PRIORITY APPLN. INFO.:			JP 1990-133997	19900525
OTHER SOURCE(S):			CASREACT 116:255167	
AB	The title compds. are prepared by hydrogenation of RfCCl ₃ or RfCFC ₂ (Rf = CF ₃ , C ₂ F ₅ , C ₃ F ₇) in presence of Pt catalysts containing ≥1 of Pd, lanthanides, and group 11 elements. A 4:1 mol H/CFC 113a mixture was passed through a reactor packed with Pt-Pd/C at 120° to give a mixture of HCFC 123 87, HCFC 133a 5, and HFC 143a 5%.			
IT	335-49-9			
	RL: RCT (Reactant); RACT (Reactant or reagent) (hydrogenation of, chlorofluorohydrocarbon from, catalysts for)			
RN	335-49-9 CAPLUS			
CN	Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)			



L17 ANSWER 9 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:634385 CAPLUS Full-text

DOCUMENT NUMBER: 115:234385

TITLE: Quantitative structure-activity relationships for fluoroelastomer/chlorofluorocarbon systems

AUTHOR(S): Paciorek, Kazimiera J. L.; Masuda, Steven R.; Nakahara, James H.; Snyder, Carl E., Jr.; Warner, William M.

CORPORATE SOURCE: Ultrasyst., Inc., Irvine, CA, 92715, USA

SOURCE: Industrial & Engineering Chemistry Research (1991), 30(12), 2531-4

CODEN: IECRED; ISSN: 0888-5885

DOCUMENT TYPE: Journal

LANGUAGE: English

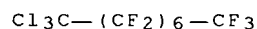
AB Swell, tensile strength, elongation, and modulus data were determined for vulcanized Viton GLT after exposure to a series of C7-8-chlorofluorocarbon model fluids. Quant. structure-activity relations were developed for the swell as a function of the number of C and Cl atoms and for tensile strength as a function of C number and Cl positions in the chlorofluorocarbons.

IT 88639-57-0

RL: USES (Uses)
(fluoroelastomer swelling, tensile strength, elongation and modulus in presence of, structure-activity relations for)

RN 88639-57-0 CAPLUS

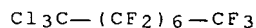
CN Octane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro- (9CI) (CA INDEX NAME)



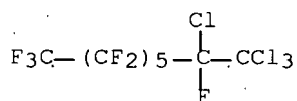
L17 ANSWER 10 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1991:517483 CAPLUS Full-text
 DOCUMENT NUMBER: 115:117483
 TITLE: Correlation of viscosity-temperature properties of
 chlorofluorocarbons with molecular structure
 AUTHOR(S): Snyder, Carl E., Jr.; Paige, Harvey L.; Herrmann,
 Debbie K.
 CORPORATE SOURCE: Wright Res. Dev. Cent., Wright-Patterson Air Force
 Base, OH, USA
 SOURCE: Lubrication Engineering (1991), 47(6), 485-9
 CODEN: LUENAG; ISSN: 0024-7154
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB To better understanding of the relationship between structures of various
 components that could be present in a com. chlorotrifluoroethylene oligomeric
 hydraulic fluid and viscosity, a series of model compds. were synthesized.
 Chemical graph theory was used to derive an equation that relates the mol.
 weight and the mol. structure of the chlorofluorocarbon mols. to their
 viscosity-temperature properties. Prediction of viscosity-temperature
 properties of chlorofluorocarbon fluids is possible. The viscosity-
 temperature properties of chlorofluorocarbon fluids are dependent on the mol.
 weight, structure, and electronegativities of the bonded atoms of the
 chlorofluorocarbon fluid.

IT 88639-57-0 135941-32-1
 RL: USES (Uses)
 (hydraulic fluids, viscosity-temperature correlation for, mol. structure in
 relation to)
 RN 88639-57-0 CAPLUS
 CN Octane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-
 (9CI) (CA INDEX NAME)



RN 135941-32-1 CAPLUS
 CN Octane, 1,1,1,2-tetrachloro-2,3,3,4,4,5,5,6,6,7,7,8,8,8-tetradecafluoro-
 (9CI) (CA INDEX NAME)



L17 ANSWER 11 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1991:41974 CAPLUS Full-text
 DOCUMENT NUMBER: 114:41974
 TITLE: Radical telomerization of 3,3,3-trifluoropropene-1
 with CCl₄
 AUTHOR(S): Vasil'eva, T. T.; Fokina, I. A.; Vitt, S. V.;
 Dostovalova, V. I.
 CORPORATE SOURCE: Inst. Elementoorg. Soedin. im. Nesmeyanova, Moscow,

USSR

SOURCE: Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya
(1990), (8), 1807-11
CODEN: IASKA6; ISSN: 0002-3353

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The title reaction in the presence of $\text{Fe}(\text{CO})_5 + \text{DMF}$ or $\text{Fe}(\text{CO})_5 + \text{HMPA}$ gave mainly $\text{Cl}_3\text{C}[\text{CH}_2\text{CH}(\text{CF}_3)]_n\text{Cl}$ ($n = 1, 2, 3$). The presence of $\text{Cl}_3\text{CCH}_2\text{CH}(\text{CCl}_3)\text{CF}_3$, a radical recombination product, confirmed the radical nature of the reaction.

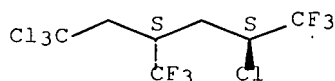
IT 131393-11-8P 131393-12-9P 131393-14-1P
131393-46-9P 131393-47-0P 131393-48-1P
131393-49-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 131393-11-8 CAPLUS

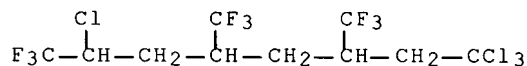
CN Hexane, 2,6,6,6-tetrachloro-1,1,1-trifluoro-4-(trifluoromethyl)-, (R^*, R^*)-
(9CI) (CA INDEX NAME)

Relative stereochemistry.



RN 131393-12-9 CAPLUS

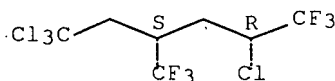
CN Octane, 2,8,8,8-tetrachloro-1,1,1-trifluoro-4,6-bis(trifluoromethyl)-
(9CI) (CA INDEX NAME)



RN 131393-14-1 CAPLUS

CN Hexane, 2,6,6,6-tetrachloro-1,1,1-trifluoro-4-(trifluoromethyl)-, (R^*, S^*)-
(9CI) (CA INDEX NAME)

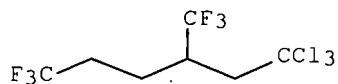
Relative stereochemistry.



RN 131393-46-9 CAPLUS

CN Hexane, 1,1,1-trichloro-6,6,6-trifluoro-3-(trifluoromethyl)-, (+)- (9CI)
(CA INDEX NAME)

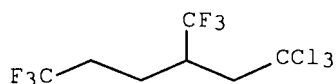
Rotation (+).



RN 131393-47-0 CAPLUS

CN Hexane, 1,1,1-trichloro-6,6,6-trifluoro-3-(trifluoromethyl)-, (-)- (9CI)
(CA INDEX NAME)

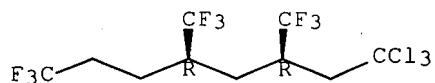
Rotation (-).



RN 131393-48-1 CAPLUS

CN Octane, 1,1,1-trichloro-8,8,8-trifluoro-3,5-bis(trifluoromethyl)-, (R*,R*)- (9CI) (CA INDEX NAME)

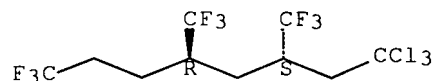
Relative stereochemistry.



RN 131393-49-2 CAPLUS

CN Octane, 1,1,1-trichloro-8,8,8-trifluoro-3,5-bis(trifluoromethyl)-, (R*,S*)- (9CI) (CA INDEX NAME)

Relative stereochemistry.



L17 ANSWER 12 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:551761 CAPLUS Full-text

DOCUMENT NUMBER: 113:151761

TITLE: Transition metal catalyzed carbon-carbon coupling reactions of 3,3,3-trifluoropropene

AUTHOR(S): Keim, Wilhelm; Raffeis, Gerhard H.; Kurth, Dirk

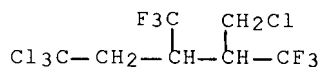
CORPORATE SOURCE: Inst. Tech. Chem. Petrolchem., RWTH Aachen, Aachen, D-5100, Germany

SOURCE: Journal of Fluorine Chemistry (1990), 48(2), 229-37
CODEN: JFLCAR; ISSN: 0022-1139

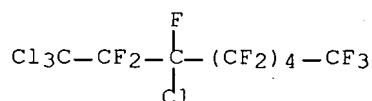
DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 113:151761
 AB Attempts to dimerize 3,3,3-trifluoropropene catalytically with homogeneous nickel catalysts were unsuccessful. In a stoichiometric reaction a new dimer was formed. Reactions to telomerize 3,3,3-trifluoropropene with tetrachloromethane in the presence of copper salts yielded new telomers.
 IT 129612-90-4P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 129612-90-4 CAPLUS
 CN Pentane, 5,5,5-trichloro-2-(chloromethyl)-1,1,1-trifluoro-3-(trifluoromethyl)- (9CI) (CA INDEX NAME)



L17 ANSWER 13 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1990:496992 CAPLUS Full-text
 DOCUMENT NUMBER: 113:96992
 TITLE: Free-radical initiated addition of carbon tetrachloride to fluoro olefins
 AUTHOR(S): Chen, Loomis S.
 CORPORATE SOURCE: Res. Inst., Univ. Dayton, Dayton, OH, 45469, USA
 SOURCE: Journal of Fluorine Chemistry (1990), 47(2), 261-72
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 113:96992
 AB The reaction between CCl₄ and unsym. fluoro olefins, e. g., RCF:CF₂ (R = n-C₅F₁₁, C₆F₅), has led to the addition product RCFClCF₂CCl₃. Addition was apparently unidirectional under the conditions used since the isomeric adduct RCF(CCl₃)CF₂Cl could not be detected. The effects of exptl. conditions such as free radical initiators, temperature, and time are discussed for the different reactions studied. A probable mechanism is suggested for these addns.
 IT 128839-53-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 128839-53-2 CAPLUS
 CN Octane, 1,1,1,3-tetrachloro-2,2,3,4,4,5,5,6,6,7,7,8,8,8-tetradecafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 14 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1990:423041 CAPLUS Full-text
 DOCUMENT NUMBER: 113:23041

TITLE: Reactions of perchlorofluoro compounds. VI.
Rearrangement of higher perchlorofluoro olefins and their reactions with nucleophiles and electrophiles

AUTHOR(S): Hu, Changming; Liu, Hui; Xu, Zeqi

CORPORATE SOURCE: Shanghai Inst. Org. Chem., Acad. Sin., Shanghai, Peop. Rep. China

SOURCE: Journal of Fluorine Chemistry (1990), 46(3), 491-506
CODEN: JFLCAR; ISSN: 0022-1139

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 113:23041

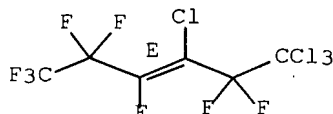
AB The F--induced isomerization of Cl₂CFCF₂CFC₁CF₂CF:CF₂ (I) gave only trans-Cl₂CFCF₂CFC₁CF:CF₂CF₃ (II), then trans-Cl₂CFCF₂CCl:CF₂CF₃ (III) and trans-Cl₂CFCF₂CF:CF₂CF₃, with the latter predominating, while AlCl₃-catalyzed isomerization of I gave only II and III. No cis isomer was detected. Such isomerization was terminated once a Cl atom was linked to the C:C bond. Reactions of I, II, and III with various nucleophiles were studied. With I, C-1 was exclusively attacked by nucleophiles to form 3 kinds of products. In II only C-2 was attacked, and the reaction proceeded via an SN₂' mechanism. In III only C-4 was attacked, and no protonation product was observed. The reactivity decreased in the order I > III > II, which was directly related to the polarity of the C:C bond. Only I reacted with electrophiles under normal conditions.

IT 127867-14-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 127867-14-5 CAPLUS

CN 3-Hexene, 1,1,1,3-tetrachloro-2,2,4,5,5,6,6,6-octafluoro-, (E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



L17 ANSWER 15 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1990:405667 CAPLUS Full-text

DOCUMENT NUMBER: 113:5667

TITLE: Synthesis of (trichloromethyl)perfluoroalkanes
[RFCCl₃, RF=C_nF_{2n+1} (n = 4, 6, 8)]

AUTHOR(S): Grondin, J.; Blancou, H.; Commeyras, A.

CORPORATE SOURCE: Lab. Chim. Org., Univ. Sci. Tech. Languedoc, Montpellier, 34060, Fr.

SOURCE: Journal of Fluorine Chemistry (1989), 45(3), 349-54
CODEN: JFLCAR; ISSN: 0022-1139

DOCUMENT TYPE: Journal

LANGUAGE: French

OTHER SOURCE(S): CASREACT 113:5667

AB A new synthesis of the title compds. is accomplished by reaction of a perfluoroalkyl iodide (RFI) with carbon tetrachloride or bromotrichloromethane and zinc metal in a chlorinated solvent; the influence of the solvent is discussed.

IT 14434-07-2P 88639-56-9P 127441-60-5P
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)
RN 14434-07-2 CAPLUS
CN Pentane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)

F₃C—(CF₂)₃—CCl₃

RN 88639-56-9 CAPLUS
CN Heptane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro- (9CI) (CA INDEX NAME)

F₃C—(CF₂)₅—CCl₃

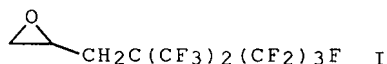
RN 127441-60-5 CAPLUS
CN Nonane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,9-heptadecafluoro- (9CI) (CA INDEX NAME)

F₃C—(CF₂)₇—CCl₃

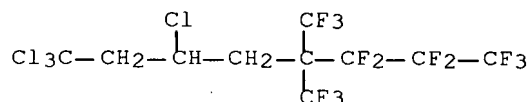
L17 ANSWER 16 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:594050 CAPLUS Full-text
DOCUMENT NUMBER: 111:194050
TITLE: Reaction of phosphorus pentachloride with perhalo carbonyl containing compounds
AUTHOR(S): Chen, Loomis S.; Chen, Grace J.
CORPORATE SOURCE: Res. Inst., Univ. Dayton, Dayton, OH, 45469, USA
SOURCE: Journal of Fluorine Chemistry (1989), 42(3), 371-87
CODEN: JFLCAR; ISSN: 0022-1139
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 111:194050
AB The reaction of RfCO(CF₂)_nCF₃ (Rf = CF₃, CF₂Cl, C₃F₇; n = 5, 7) with PCl₅ gave RfCCl₂(CF₂)_nCF₃. The diketone C₂F₅CO(CF₂)₃COC₂F₅ gave C₂F₅CCl₂(CF₂)₃CCl₂C₂F₅ and some C₂F₅CO(CF₂)₃CCl₂C₂F₅. 2,5-Dichloro-2,5-bis(pentafluoroethyl)-3,3,4,4-tetrafluorotetrahydrofuran was obtained from C₂F₅CO(CF₂)₂COC₂F₅.
IT 88639-56-9P
RL: FORM (Formation, nonpreparative); PREP (Preparation)
(formation of, in reaction of perfluorooctanone with phosphorus pentachloride)
RN 88639-56-9 CAPLUS
CN Heptane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro- (9CI) (CA INDEX NAME)

F₃C—(CF₂)₅—CCl₃

L17 ANSWER 17 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1989:134681 CAPLUS Full-text
 DOCUMENT NUMBER: 110:134681
 TITLE: Synthetic utility of 3-(perfluoro-1,1-dimethylbutyl)-1-propene. Part I. Conversion to the epoxide and to alcohols
 AUTHOR(S): Dmowski, Wojciech; Plenkiewicz, Halina; Porwisiak, Jacek
 CORPORATE SOURCE: Inst. Org. Chem., Pol. Acad. Sci., Warsaw, 01-224, Pol.
 SOURCE: Journal of Fluorine Chemistry (1988), 41(2), 191-212
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 110:134681
 GI



AB Various routes for the conversion of the title alkene to the corresponding epoxide and to alcs. were investigated. New perfluoroalkyl epoxide I and R(CH₂)₃OH, RCH₂CHMeOH, RCH₂CH(OH)CH₂OMe, and RCH₂CHBrCH₂OH [R = F(CF₃)₃C(CF₃)₂] were prepared
 IT 119285-90-4P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 119285-90-4 CAPLUS
 CN Octane, 6,8,8,8-tetrachloro-1,1,1,2,2,3,3-heptafluoro-4,4-bis(trifluoromethyl)- (9CI) (CA INDEX NAME)



L17 ANSWER 18 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1988:509809 CAPLUS Full-text
 DOCUMENT NUMBER: 109:109809
 TITLE: A general facile preparation of F-alkylacetylenes
 AUTHOR(S): Burton, Donald J.; Spawn, Terence D.
 CORPORATE SOURCE: Dep. Chem., Univ. Iowa, Iowa City, IA, 52242, USA
 SOURCE: Journal of Fluorine Chemistry (1988), 38(1), 119-23
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 109:109809

AB RCH:CH₂ (R = perfluoroalkyl) were exhaustively chlorinated under UV irradiation to give RCCl₂CCl₃ (same R) in high yields. Subsequent dechlorination with 3 equiv Zn readily gives RC.tplbond.CZnCl (I; same R), which are hydrolyzed with aqueous HCl to give RC.tplbond.CH (II; same R) in good yields. The methodol. is applicable to R groups of various chain lengths, and I formed as the reaction intermediates are also useful in the direct preparation of functionalized II.

IT 116046-22-1P 116046-23-2P 116046-24-3P

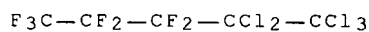
116046-25-4P 116046-26-5P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and dechlorination of, with zinc)

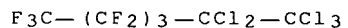
RN 116046-22-1 CAPLUS

CN Pentane, 1,1,1,2,2-pentachloro-3,3,4,4,5,5,5-heptafluoro- (9CI) (CA INDEX NAME)



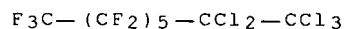
RN 116046-23-2 CAPLUS

CN Hexane, 1,1,1,2,2-pentachloro-3,3,4,4,5,5,6,6,6-nonafluoro- (9CI) (CA INDEX NAME)



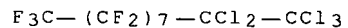
RN 116046-24-3 CAPLUS

CN Octane, 1,1,1,2,2-pentachloro-3,3,4,4,5,5,6,6,7,7,8,8,8-tridecafluoro- (9CI) (CA INDEX NAME)



RN 116046-25-4 CAPLUS

CN Decane, 1,1,1,2,2-pentachloro-3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-heptadecafluoro- (9CI) (CA INDEX NAME)



RN 116046-26-5 CAPLUS

CN Dodecane, 1,1,1,2,2-pentachloro-3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,12-heneicosafuoro- (9CI) (CA INDEX NAME)

F₃C—(CF₂)₉—CCl₂—CCl₃

L17 ANSWER 19 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1987:175741 CAPLUS Full-text
 DOCUMENT NUMBER: 106:175741
 TITLE: A new general synthesis route to 1,1,1-trihalopolyfluoroalkanes
 AUTHOR(S): Eapen, K. C.; Eisentraut, K. J.; Ryan, M. T.; Tamborski, C.
 CORPORATE SOURCE: Res. Inst., Univ. Dayton, Dayton, OH, 45469, USA
 SOURCE: Journal of Fluorine Chemistry (1986), 31(4), 405-16
 CODEN: JFLCAR; ISSN: 0022-1139
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 106:175741
 AB 1,1,1-Trichloro- and tribromopolyfluoroalkanes were synthesized from perfluoroalkyl iodides and anhydrous AlCl₃ and AlBr₃, resp. Thus, CF₃(CF₂)₆CF₂I was treated with AlCl₃ to give up to 55% CF₃(CF₂)₆CCl₃. The reaction is also applicable to perfluoroalkyl ether iodides, though varying amts. of byproducts are formed depending on the structure of the starting iodide.
 IT 307-28-8P 88639-57-0P 107972-64-5P
 RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)
 RN 307-28-8 CAPLUS
 CN Hexane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,6-undecafluoro- (9CI) (CA INDEX NAME)

Cl₃C—(CF₂)₄—CF₃

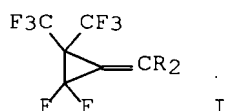
RN 88639-57-0 CAPLUS
 CN Octane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro- (9CI) (CA INDEX NAME)

Cl₃C—(CF₂)₆—CF₃

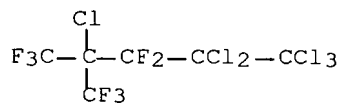
RN 107972-64-5 CAPLUS
 CN Decane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,10-nonadecafluoro- (9CI) (CA INDEX NAME)

Cl₃C—(CF₂)₈—CF₃

L17 ANSWER 20 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1985:504583 CAPLUS Full-text
 DOCUMENT NUMBER: 103:104583
 TITLE: Fluoro olefin chemistry. Part 19. Reactions of some
 halomethylenecyclopropanes
 AUTHOR(S): Fields, Roy; Haszeldine, Robert N.; Pradhan, Prakash
 R.; Bunegar, Michael J.
 CORPORATE SOURCE: Chem. Dep., Univ. Manchester Inst. Sci. Technol.,
 Manchester, M60 1QD, UK
 SOURCE: Journal of Chemical Research, Synopses (1985), (4),
 110-11
 CODEN: JRPSDC; ISSN: 0308-2342
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 103:104583
 GI



AB Reaction of the title compds. (I; R = F, Cl) (II and III, resp.) with Br or Cl
 in vacuo at room temperature under normal laboratory lighting gave
 (F3C)2CR1CF2CR1:CR2 (R = F, Cl, R1 = Br, Cl) in 82-99% yield. II reacted with
 a variety of nucleophiles to give addition products; III did not react with
 nucleophiles.
 IT 97818-79-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 97818-79-6 CAPLUS
 CN Pentane, 1,1,1,2,2,4-hexachloro-3,3,5,5,5-pentafluoro-4-(trifluoromethyl)-
 (9CI) (CA INDEX NAME)



L17 ANSWER 21 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1985:5722 CAPLUS Full-text
 DOCUMENT NUMBER: 102:5722
 TITLE: Fluoroalkylnitriles
 PATENT ASSIGNEE(S): Daikin Kogyo Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1

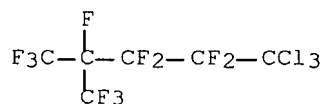
PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	JP 59118751	A	19840709	JP 1982-234259	19821224
PRIORITY APPLN. INFO.:				JP 1982-234259	19821224
AB	Fluoroalkylnitriles RCN (I, R = F3C, F3CCF2) were prepared by reaction of RCCl3 (II) with NH3. Thus, a 1:1 mol mixture of II (R = F3C) (III) and NH3 was passed over 23 + 750 mm quartz at 730° and 78.8 h-1 space velocity to give 64.7% I (R = F3C) with 100% reaction ratio of III.				
IT	14434-07-2				
	RL: RCT (Reactant); RACT (Reactant or reagent) (ammonolysis of)				
RN	14434-07-2 CAPLUS				
CN	Pentane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)				

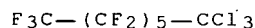
F3C—(CF2)3—CCl3

L17 ANSWER 22 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1984:67851 CAPLUS Full-text
 DOCUMENT NUMBER: 100:67851
 TITLE: Conversion of 1,1,1-trichloroperhaloalkanes into perhaloalkanoyl chlorides
 INVENTOR(S): Anello, Louis G.; Eibeck, Richard E.; Robinson, Martin A.
 PATENT ASSIGNEE(S): Allied Corp., USA
 SOURCE: U.S., 5 pp. Cont.-in-part of U.S. 4,340,548.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

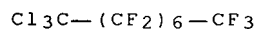
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	US 4411843	A	19831025	US 1982-372576	19820429
	US 4340548	A	19820720	US 1980-216033	19801215
	EP 93793	A1	19831116	EP 1982-104229	19820514
	EP 93793	B1	19850731		
	R: DE, FR, GB, IT				
	CA 1169877	A1	19840626	CA 1982-403670	19820525
PRIORITY APPLN. INFO.:				US 1980-216033	A2 19801215
				US 1982-372576	A 19820429
OTHER SOURCE(S):	MARPAT 100:67851				
AB	Perhaloalkanoyl chlorides were prepared by contacting straight or branched chain C2-8 1,1,1-trichloroperhaloalkanes with SO3, stabilized SO3, or oleum in the presence of a halogen catalyst. Thus, treating 150 g CF3CCl3 with 145 g SO3 and 7.5 g Br gave 98% CF3COCl.				
IT	88639-55-8 88639-56-9 88639-57-0				
	RL: PROC (Process) (conversion of, to perfluoroalkanoyl chloride)				
RN	88639-55-8 CAPLUS				
CN	Pentane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,5-octafluoro-4-(trifluoromethyl)- (9CI) (CA INDEX NAME)				



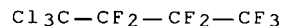
RN 88639-56-9 CAPLUS
 CN Heptane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,7-tridecafluoro- (9CI)
 (CA INDEX NAME)



RN 88639-57-0 CAPLUS
 CN Octane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,7,7,8,8,8-pentadecafluoro-
 (9CI) (CA INDEX NAME)



IT 335-49-9
 RL: PROC (Process)
 (conversion of, to perfluorobutanoyl chloride)
 RN 335-49-9 CAPLUS
 CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 23 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1983:88765 CAPLUS Full-text

DOCUMENT NUMBER: 98:88765

TITLE: Reaction of hexafluoropropene with haloalkanes

AUTHOR(S): Haszeldine, Robert N.; Rowland, Ronald; Tipping,
 Anthony E.; Tyrrell, Geoffrey

CORPORATE SOURCE: Dep. Chem., Univ. Manchester Inst. Sci. Technol.,
 Manchester, M60 1QD, UK

SOURCE: Journal of Fluorine Chemistry (1982), 21(2), 253-9
 CODEN: JFLCAR; ISSN: 0022-1139

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 98:88765

AB Insertion of hexafluoropropene under thermal and/or photochem. conditions
 occurs into C-H bonds of MeCl, CH₂Cl₂, CHCl₃, MeF, CH₂F₂, CHF₂Cl, EtF, MeCHF₂
 and MeCF₃, into C-H and C-Cl bonds of EtCl, MeCHFCl, PrCl, Me₂CHCl, Me₃CCl,

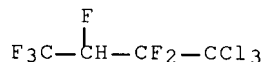
and Me₂CHCH₂Cl; and into C-Cl bonds of CH₂:CHCH₂Cl, ClCH₂CH₂Cl, MeCHCl₂, ClCH₂CHCl₂ and MeCCl₃.

IT 58705-96-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 58705-96-7 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,4,4,4-hexafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 24 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1980:620405 CAPLUS Full-text

DOCUMENT NUMBER: 93:220405

TITLE: Fluoroalkenyl-substituted cyclopropanecarboxylic acid esters, intermediates for them, and their use against insects and/or spiders

INVENTOR(S): Lantzs, Reinhard; Hagemann, Hermann; Arlt, Dieter; Jautelat, Manfred; Hammann, Ingeborg; Behrenz, Wolfgang

PATENT ASSIGNEE(S): Bayer A.-G., Fed. Rep. Ger.

SOURCE: Eur. Pat. Appl., 48 pp.

CODEN: EPXXDW

DOCUMENT TYPE: Patent

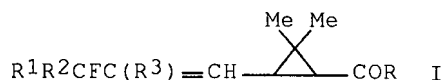
LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 9709	A1	19800416	EP 1979-103488	19790917
EP 9709	B1	19840215		
R: AT, BE, CH, DE, FR, GB, IT, NL, SE				
DE 2842541	A1	19800522	DE 1978-2842541	19780929
AT 6249	T	19840315	AT 1979-103488	19790917
CS 209935	B2	19811231	CS 1979-6378	19790921
BR 7906171	A	19800527	BR 1979-6171	19790926
SU 1071196	A3	19840130	SU 1979-2815597	19790926
HU 28114	A2	19831128	HU 1979-BA3855	19790927
DK 7904091	A	19800330	DK 1979-4091	19790928
AU 7951311	A	19800403	AU 1979-51311	19790928
AU 531782	B2	19830908		
JP 55049341	A	19800409	JP 1979-124275	19790928
ES 484574	A1	19800616	ES 1979-484574	19790928
ZA 7905166	A	19801029	ZA 1979-5166	19790928
DD 147907	A5	19810429	DD 1979-215891	19790928
CA 1141389	A1	19830215	CA 1979-336559	19790928
RO 78868	A1	19830803	RO 1979-98813	19790929
PRIORITY APPLN. INFO.:			DE 1978-2842541	A 19780929
			EP 1979-103488	A 19790917

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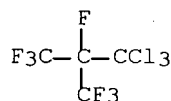


AB Title cyclopropanecarboxylates (I; R = substituted benzyloxy; R₁ = H, Cl, Br, Cl-4 alkyl and -haloalkyl; R₂ = Cl, Br, same alkyl; R₃ = Cl, Br, CF₂, R₁R₂CF), useful as insecticides (no data), were prepared by treating cyclopropanecarbonyl chlorides with the appropriate benzyl alcs. Thus, treating 5.88 g I (R-R₃ = Cl) with 4.5 g 4-PhOC₆H₄CH(CN)OH in PhMe containing pyridine gave 9.1 g I [R = CH(CN)C₆H₄OPh-4; R₁-R₃ = Cl].

IT 75531-36-1
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (addition reaction of, with Et dimethylpentenoate)

RN 75531-36-1 CAPLUS

CN Propane, 1,1,1,2,3,3,3-heptafluoro-2-(trichloromethyl)- (9CI) (CA INDEX NAME)



L17 ANSWER 25 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1976:578018 CAPLUS Full-text

DOCUMENT NUMBER: 85:178018

TITLE: Redox-catalyzed telomerization. VII. Synthesis and chemical transformation of telomers of chlorotrifluoroethylene and of 1,1,1-trichlorotrifluoroethane

AUTHOR(S): Boutevin, B.; Pietrasanta, Y.; Sideris, A.

CORPORATE SOURCE: Lab. Chim. Appl., Ec. Nat. Super. Chim., Montpellier, Fr.

SOURCE: European Polymer Journal (1976), 12(5), 283-8
 CODEN: EUPJAG; ISSN: 0014-3057

DOCUMENT TYPE: Journal

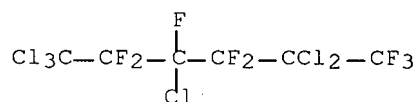
LANGUAGE: French

AB AlCl₃-catalyzed isomerization of CCl₂FCClF₂ [76-13-1] gave CF₃CCl₃ [354-58-5] which underwent FeCl₃-catalyzed telomerization with CClF:CF₂ [79-38-9] to give CF₃CCl₂(CF₂CFCl)_nCl(I) n = 1-4. I (n = 1) [57504-35-5] and (I) (n = 2) [57504-36-6] treated with AlCl₃ in CCl₄ gave CF₃CCl₂CF₂CCl₃ [375-41-7] and CF₃CCl₂(CF₂CFCl)₂Cl [57504-38-8] resp., and with 20% oleum gave CF₃CCl₂CF₂CO₂H and CF₃CCl₂CF₂CFClCF₂CO₂H [57504-41-3], resp., esterification of which with EtOH gave CF₃CCl₂CF₂CO₂Et [60174-50-7] and CF₃CCl₂CF₂CFClCF₂CO₂Et [60174-51-8]. The surface tensions of some of the products and of telomers from CClF:CF₂ and CCl₄ and compds. thereof were determined

IT 57504-38-8P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 57504-38-8 CAPLUS

CN Hexane, 1,1,1,3,5,5-hexachloro-2,2,3,4,4,6,6,6-octafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 26 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1976:121095 CAPLUS Full-text
 DOCUMENT NUMBER: 84:121095
 TITLE: Insertion of hexafluoropropene at the aliphatic carbon-hydrogen bond of a functionally substituted hydrocarbon
 INVENTOR(S): Haszeldine, Robert N.; Rowland, Ronald
 PATENT ASSIGNEE(S): Pennwalt Corp., USA
 SOURCE: U.S., 6 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

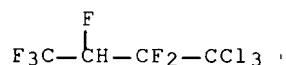
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3927129	A	19751216	US 1973-321162	19730105
GB 1430582	A	19760331	GB 1972-1989	19730405
PRIORITY APPLN. INFO.:			GB 1972-1989	A 19720114

AB Fifteen fluorinated organic compds. were prepared by heating hexafluoropropene (I) at 260-380° with compds. free of acetylenic and terminal ethylenic unsatn., and containing at least one aliphatic C-H bond and at least one functional group inert under reaction conditions (e.g., ether, alc., sulfide, halide). Thus, I was heated with Me₂O or MeCl at 280° for 4 days to give MeOCH₂CF₂CHF₂CF₃ and ClCH₂CF₂CHF₂CF₃, resp. Three polymers, e.g., polyethylene terephthalate, were similarly heated with I to give polymers containing C₃F₆ units.

IT 58705-96-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 58705-96-7 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,4,4,4-hexafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 27 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 1976:4386 CAPLUS Full-text
 DOCUMENT NUMBER: 84:4386
 TITLE: Synthesis and chemical transformation of

chlorotrifluoroethylene and 1,1,1-trichlorotrifluoroethane telomers

AUTHOR(S): Boutevin, Bernard; Pietrasanta, Yves; Sideris, Andre

CORPORATE SOURCE: Lab. Chim. Appl., Ec. Natl. Super. Chim. Montpellier, Montpellier, Fr.

SOURCE: Comptes Rendus des Seances de l'Academie des Sciences, Serie C: Sciences Chimiques (1975), 281(11), 405-8
CODEN: CHDCAQ; ISSN: 0567-6541

DOCUMENT TYPE: Journal

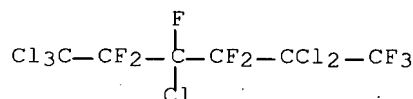
LANGUAGE: French

AB The telomerization of ClCF_2CF_2 with CF_3CCl_3 and benzoin- FeCl_3 and benzoin- CuCl_2 gave $\text{CF}_3\text{CCl}_2(\text{CF}_2\text{CFCl})_n\text{Cl}$ (I, $n = 1, 2, 3$), which showed surfactant properties. Halogen interchange of the I with AlCl_3 gave the resp. $\text{CF}_3\text{CCl}_2(\text{CF}_2\text{CFCl})_n\text{-1CF}_2\text{CCl}_3$ which were hydrolyzed to $\text{CF}_3\text{CCl}_2(\text{CF}_2\text{CFCl})_n\text{-1CF}_2\text{CO}_2\text{H}$ ($n = 1, 2, 3$).

IT 57504-38-8P 57504-39-9P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent).
(preparation and hydrolysis of)

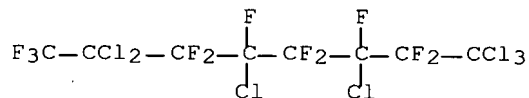
RN 57504-38-8 CAPLUS

CN Hexane, 1,1,1,3,5,5-hexachloro-2,2,3,4,4,6,6,6-octafluoro- (9CI) (CA INDEX NAME)



RN 57504-39-9 CAPLUS

CN Octane, 1,1,1,3,5,7,7-heptachloro-2,2,3,4,4,5,6,6,8,8,8-undecafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 28 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1971:509764 CAPLUS Full-text

DOCUMENT NUMBER: 75:109764

TITLE: Reactions of polyhalotertiary alcohols with a halogenating agents

AUTHOR(S): Dear, R. E. A.; Gilbert, E. E.; Murray, J. J.

CORPORATE SOURCE: Allied Chem. Corp., Morristown, NJ, USA

SOURCE: Tetrahedron (1971), 27(15), 3345-55

CODEN: TETRAB; ISSN: 0040-4020

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Reactions of polyhalo tertiary alcohols, $\text{CZ}_3\text{C}(\text{CF}_2\text{X})(\text{CF}_2\text{Y})\text{OH}$. with a variety of reagents are described. Where Z is H and X and Y are H or F, reaction with

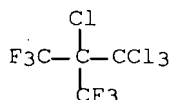
SF4 and PCl5 leads to olefin formation. CZ2:C(CF2X)(CF2Y). If X and (or) Y are Cl, then PCl5 still gives the corresponding olefin, but SF4 causes a rapid Cl migration and the production of saturated compds. When Z is Cl and both X and Y are F, olefin formation results from reaction with PCl5, Ph3PBr2 and Ph3PI2. SF4 and Ph3PCl2 react differently, the former giving a rearranged saturated material and the latter an acid chloride. Related reactions are described and reaction mechanisms are proposed.

IT 32864-63-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 32864-63-4 CAPLUS

CN Propane, 1,1,1,2-tetrachloro-3,3,3-trifluoro-2-(trifluoromethyl)- (8CI)
(CA INDEX NAME)



L17 ANSWER 29 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1966:490217 CAPLUS Full-text

DOCUMENT NUMBER: 65:90217

ORIGINAL REFERENCE NO.: 65:16851h,16852a-e

TITLE: Methods of preparation and properties of
organofluorine compounds. IV. N- α,α -
Dichlorononafluoroamylimino chloride of
 ω,ω,ω -trichlorohexafluorovaleric
acid

AUTHOR(S): Mazalov, S. A.; Sokolov, S. V.

CORPORATE SOURCE: Polytech. Inst., Sverdlovsk

SOURCE: Zhurnal Obshchei Khimii (1966), 36(7), 1330-7
CODEN: ZOKHA4; ISSN: 0044-460X

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB cf. CA 63, 1712b; 65, 2140g. Perfluoro tertiary amines react with AlCl3 forming α -Cl derivs. by displacement of α -F atoms, with subsequent rearrangement into fluorinated alkylimino chlorides. Nucleophilic α -C atoms. The reaction of 450 g. N-Perfluoroamylperfluoropiperidine in CCl4 with 400 g. AlCl3 in 5-6 hrs. at 75-100° gave after filtration a product b. 110-30° which treated with alc. KOH and filtered gave CCl3C4F9, b. 119-21° d20 1.7510, n20D 1.3380, and higher-b. fractions: b. 130-45°, containing polychlorofluoropentanes and α,α,α -trichlorohexafluoropiperidine in an inseparable mixture; b. 250-60°, containing 63% of total products and yielding on redistn. a mixture (I) of CCl3(CF2)3CCl2N:CCl2C4F9 and CCl3(CF2)3CCl2N:CClC4F9, b. 255-7°, b10 123-5°, 1.8490, 1.3980. Heating CCl3(CF2)3C(:NH)OH and CF3(CF2)3CO2H with a trace of H2SO4 6 hrs at 150° gave perfluorovalerimide, m. 84-5°, b. 178-80°, and 53% CCl3(CF2)3CONHC4F9, m. 137-7.5°, b. 220-50°, and a residue of trichlorohexafluorovalerimide, m. 172-3°. Heating trichlorohexafluorovalerimide and perfluorovalerimide with PCl5, 15 hrs. at 150° gave 35% I, b. 254-6°. This and CH2N2 gave 35% ω,ω,ω -trichlorohexafluorobutyl chloromethyl ketone N- α,α -dichlorononafluoroamylimine, b6 129-31°, 1.3980, -. I and concentrated H2SO4 heated 10 hrs. at 150° and the mixture heated 5 hrs. with added H2O gave 84% C4F9CO2H; Me ester b. 99-100°; amide m. 107-8°, b. 180-2°; the hydrolysis

above also gave $\text{CCl}_3(\text{CF}_2)_3\text{CO}_2\text{H}$; amide m. $137-8^\circ$. Hydrolysis of I with H_2SO_4 in the presence of $\text{HgSO}_4\text{-Hg}_2\text{SO}_4$ at $170-90^\circ$ gave Me esters of $\text{C}_4\text{F}_9\text{CO}_2\text{H}$ and $\text{CCl}_3(\text{CF}_2)_3\text{CO}_2\text{H}$ and $(\text{CF}_2)_3(\text{CO}_2\text{H})_2$ (II) isolated best as the di-Et ester, b. $205-7^\circ$, 1.3590, -; diamide m. $208-9^\circ$. $\text{CCl}_3(\text{CF}_2)_3\text{CO}_2\text{H}$ heated with 60% oleum in the presence of $\text{HgSO}_4\text{-Hg}_2\text{SO}_4$ 10 hrs. at 80° gave after treatment with MeOH 83% II di-Me ester, b. $193-6^\circ$, 1.3520, -. I heated 5 days with MeOH gave Me esters of $\text{C}_4\text{F}_9\text{CO}_2\text{H}$ and $\text{CCl}_3(\text{CF}_2)_3\text{CO}_2\text{H}$. I and PhNH_2 in Et_2O gave 70% $\text{CCl}_3(\text{CF}_2)_3\text{C}(\text{NPh})\text{N}:\text{C}(\text{NPh})\text{C}_4\text{F}_9$, m. $100-1^\circ$. I and NH_3 in Et_2O with ice cooling gave 64% $\text{CCl}_3(\text{CF}_2)_3\text{C}(:\text{NH})\text{N}:\text{C}(\text{NH}_2)\text{C}_4\text{F}_9$, b7 $127-9^\circ$, 1.3930, 1.7970. With excess NH_3 , the product was a mixture of amidines of $\text{C}_4\text{F}_9\text{CO}_2\text{H}$ and $\text{CCl}_3(\text{CF}_2)_3\text{CO}_2\text{H}$, m. $63-5^\circ$. I heated with CoF_3 1 hr. at 150° gave Cl and 89% $[\text{CCl}_3(\text{CF}_2)_3\text{CF bond triple dots bottom N bond triple dots bottom CFC}_4\text{F}_9]$ F (III), b. $188-92^\circ$, n20D 1.3320, d20 1.8280. I and dry HF with SbCl_5 in an autoclave at room temperature 1 day gave 85% $\text{CCl}_3(\text{CF}_2)_4\text{NHC}_5\text{F}_{11}$ b7 $85-90^\circ$, n20D 1.3390, which with KF at $140-50^\circ$ 5 hrs. gave 93% III. I and SbF_5 1 hr. at $140-60^\circ$ gave after heating with alc. KOH 65% N-perfluoroamylperfluoropiperidine, b. $145-8^\circ$, d20 1.8710. N.M.R. and ir spectra are reported for the products above.

IT 14434-07-2P, Pentane, 1,1,1-trichlorononafluoro-
 RL: PREP (Preparation)
 (preparation of)

RN 14434-07-2 CAPLUS

CN Pentane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,5-nonafluoro- (9CI) (CA INDEX NAME)

$\text{F}_3\text{C}-(\text{CF}_2)_3-\text{CCl}_3$

L17 ANSWER 30 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN /

ACCESSION NUMBER: 1966:24680 CAPLUS Full-text

DOCUMENT NUMBER: 64:24680

ORIGINAL REFERENCE NO.: 64:4533e-f

TITLE: The compatibility of compacted boron carbide in stainless steel-alkali metal systems

AUTHOR(S): Lympres, C. J.; Slotnick, H.

SOURCE: U.S. At. Energy Comm. (1965), TIM-822, 9 pp.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Specimens of B carbide were exposed to 1000°F . NaK-78 for extended times exceeding 5000 hrs. The carbide probably fragments in 1000°F . NaK-78. It was noted that the fragments could be retained by 20- and 160- μ sintered metal filters. Fragmentation is attributed to the reaction between K and free C. Although B and C transfer occurred, reaction between B carbide and type 316 in NaK-77 was not detrimental.

IT 335-49-9
 (Derived from data in the 7th Collective Formula Index (1962-1966))

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)

$\text{Cl}_3\text{C}-\text{CF}_2-\text{CF}_2-\text{CF}_3$

L17 ANSWER 31 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1966:24679 CAPLUS Full-text
DOCUMENT NUMBER: 64:24679
ORIGINAL REFERENCE NO.: 64:4533d-e
TITLE: Degradation of C-816 and C-437 with fluorine
AUTHOR(S): Massoth, F. E.; Kornet, F. A.
CORPORATE SOURCE: Goodyear At. Corp., Portsmouth, OH
SOURCE: U.S. At. Energy Comm. (1965); GAT-L-420, 5 pp.
DOCUMENT TYPE: Journal
LANGUAGE: English

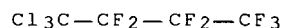
AB Complete degradation of C-437 (trichloroheptafluorobutane) has been achieved under Freon 114 degradation conditions (ibid. GAT-L 270, 8 pp.(1057)). The optimum reaction conditions for a 12-in.-long and 1-in. outside diameter Ni reactor were: F:C-437:N mole ratio 5:1:30, total flow, cc./min. 900, reaction temperature 510-550°, total pressure 750 torr, contact time 13 sec. C-816 (decafluoro-1,3-bis(trifluoromethyl)cyclohexane) was completely stable under similar conditions.

IT 335-49-9

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 32 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

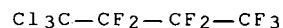
ACCESSION NUMBER: 1965:62872 CAPLUS Full-text
DOCUMENT NUMBER: 62:62872
ORIGINAL REFERENCE NO.: 62:11165b-c
TITLE: Molar refractivity in fluorine-containing perhalo compounds
AUTHOR(S): Fainberg, Arnold H.; Miller, William T., Jr.
CORPORATE SOURCE: Cornell Univ., Ithaca, NY
SOURCE: Journal of Organic Chemistry (1965), 30(3), 864-76
CODEN: JOCEAH; ISSN: 0022-3263
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new set of atomic and group refractions is proposed for fluoro perhalo compds., based on refractivity data for 112 compds. carefully screened for evidence of purity. Molar refractions found for saturated perhaloalkanes are fitted to $\pm 0.1\%$, and for terminally unsatd. perhalo olefins to $\pm 0.2\%$. The set employs single, invariant values for C and for F, but multiple values, dependent on position, for the other halogens.

IT 335-49-9, Butane, 1,1,1-trichloroheptafluoro-
(refraction of)

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)



L17 ANSWER 33 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1965:62871 CAPLUS Full-text

DOCUMENT NUMBER: 62:62871
ORIGINAL REFERENCE NO.: 62:11164h,11165a-b
TITLE: Dissociative ionization of molecules by rare-gas ion impact
AUTHOR(S): Maier, William B., II
CORPORATE SOURCE: Univ. of Chicago
SOURCE: Journal of Chemical Physics (1965), 42(5), 1790-804
CODEN: JCPSA6; ISSN: 0021-9606
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Reactions of rare-gas ions with N₂O, C₂H₂, C₂H₄, and D are studied and cross sections are given for primary-ion energies below 120 ev. These cross sections are compared for qual. differences. Most of the reactions have rather sharp onsets, and a semiempirical formula is fitted to the data near the apparent threshold energy. Information about bond energies is obtained from ion-mol. reactions. The data are consistent with: D(H₂C:CH₂) = 8.11 +0.10-0.18 ev., and with D(CH-H) = 3.99 +0.05-0.09 ev., although smaller values of D(H₂C:CH₂), and larger values of D(CH-H), cannot be entirely excluded. Ion-impact methods possess inherent advantages over electron-impact methods in certain cases; for example, the present data show that the electron-impact appearance potential of C₂H₃⁺ from C₂H₄ is certainly 0.3 ev. and probably 0.6 ev. larger than the true threshold energy. The threshold behavior of an endothermic charge-transfer process Kr⁺ + D₂ → D₂⁺ + Kr is studied, and the cross section for this reaction is comparable in size to many of the other endothermic reactions observed, despite the fact that kinetic energy of the colliding particles must be converted into electronic energy for the reaction to proceed.

IT 335-49-9

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)

C13C—CF₂—CF₂—CF₃

L17 ANSWER 34 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1965:62870 CAPLUS Full-text
DOCUMENT NUMBER: 62:62870
ORIGINAL REFERENCE NO.: 62:11164g-h
TITLE: Low-temperature properties of the interacting Bose system
AUTHOR(S): Shono, Naomi
CORPORATE SOURCE: Jogakuin Coll., Hiroshima, Japan
SOURCE: Progr. Theoret. Phys. (Kyoto) (1964), 31(April), 553-74
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The low-temperature properties of the interacting Bose system at high d. are investigated under the random-phase approximation and the self-consistent Hartree approximation, based on the normal-mode analysis. To treat rigorously the temperature-dependent "depletion" effect of the particles in the zero-momentum level, a new approach is proposed. As a result, the critical temperature T_c at which the zero-momentum particles disappear is determined. In the region below T_c, the temperature-dependent energy spectrum of the quasi-particles, which has at the zero-temperature an intimate connection with that of Bogolyubov, is obtained; and the property of superfluidity which

disappears at Tc is discussed. The quasi-particles are transformed into the normal Bose particles at Tc, and the temperature-dependent energy spectrum of the normal particles in the region above Tc is determined. It is noteworthy that the phase transition of the 2nd order occurs at Tc.

IT 335-49-9

(Derived from data in the 7th Collective Formula Index (1962-1966))

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)

C13C—CF2—CF2—CF3

L17 ANSWER 35 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1963:415076 CAPLUS Full-text

DOCUMENT NUMBER: 59:15076

ORIGINAL REFERENCE NO.: 59:2634g-h

TITLE: Chemistry of perfluoro ethers. IV. Structure of the monocyclic diether C8F16O2

AUTHOR(S): Tiers, George Van Dyke

CORPORATE SOURCE: Minnesota Mining & Manufg. Co., St. Paul

SOURCE: Journal of Organic Chemistry (1963), 28, 1403

CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

GI For diagram(s), see printed CA Issue.

AB cf. CA 50, 9998f, 11814g. The monocyclic diether, C8F16O2 (I) reported by Brice and Coon (CA 47, 9088a) was heated (0.046 mole) 14 hrs. at 200° with 0.135 mole AlCl3 in a rocking autoclave and the isolated products separated by distillation gave 3 g. unchanged I, 1 g. C3F7COCl (fraction boiling slightly above 20°), 6.0 g. C3F7CCl3, CCl3CF2CF2COCl, b. 89-94°, and 3.4 g. CCl3CF2CF2COCl, b. 145-53°; amide, m. 126-7°. Only 2 structures were found consistent with the given observations of which the alternative formulation (II) seems to be the less probable. I(II) is believed to be the 1st reported example of a per-fluorinated acetal structure.

IT 335-49-9P, Butane, 1,1,1-trichloroheptafluoro-

RL: PREP (Preparation)
(preparation of)

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)

C13C—CF2—CF2—CF3

L17 ANSWER 36 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1963:415075 CAPLUS Full-text

DOCUMENT NUMBER: 59:15075

ORIGINAL REFERENCE NO.: 59:2634d-g

TITLE: Contributions to the chemistry of thiophosphates. XIV. Thiophosphate-acidum salts from trialkyl phosphites

AUTHOR(S): Hilgetag, Guenter; Teichmann, Herbert

CORPORATE SOURCE: German Acad. Sci., Berlin-Adlershof

SOURCE: Chemische Berichte (1963), 96, 1465-9

CODEN: CHBEAM; ISSN: 0009-2940

DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB The ionic intermediate with quaternary P, postulated for the thiophosphate synthesis from trialkyl phosphites with sulfenyl chlorides can be scavenged by SbCl₅; this reaction constitutes a simple synthesis of the tetra-alkylthiophosphate-acidium hexachloroantimonates. MeSCl (5.0 g.) in 80 cc. CH₂Cl₂ treated dropwise at -78° under N with 17.94 g. SbCl₅ and 7.5 g. (MeO)₃P each in 8 cc. CH₂Cl₂, kept overnight at -78°, and filtered gave 23.0 g. [(MeO)₃PSMe][SbCl₆], m. 126-8° (repptd. from CH₂Cl₂ with Et₂O). EtSCl (6.6 g.) in 10 cc. CH₂Cl₂ treated with 20.4 g. SbCl₅ and 8.5 g. (MeO)₃P each in 10 cc. CH₂Cl₂, kept 2 hrs. at room temperature, cooled to -78°, and filtered yielded 19.5 g. [(MeO)₃PSEt][SbCl₆] (I), m. 125-6° (decomposition); it polymerizes tetrahydrofuran to a glassy mass. EtSCl (6.0 g.) in 10 cc. CH₂Cl₂ with 18.6 g. SbCl₅ and 10.3 g. (EtO)₃P each in 10 cc. CH₂Cl₂ kept several hrs. at room temperature, diluted with Et₂O, and cooled gave 22.1 g. [(EtO)₃PSEt][SbCl₅] (II), crystalline powder, m. 109-13°; it polymerizes tetrahydrofuran. MeSCl (3.73 g.) in 40 cc. CH₂Cl₂ treated with 13.45 g. SbCl₅ and 7.55 g. (EtO)₃P each in 6 cc. CH₂Cl₂, kept overnight at -78°, and diluted with about 130 cc. Et₂O precipitated 16.6 g. [(EtO)₃PSMe][SbCl₆], crystalline powder, m. 120-2° (decomposition) (repptd. from CH₂Cl₂ with Et₂O). The equivalent conductivities at concns. of 100, 166.6, 250, 500, and 2500 l./mole (given in this order) were determined in MeNO₂ for the following compds.: I, 78.70, 83.06, 86.37, 88.63, 96.70; II, 76.71, 82.46, 82.82, 84.38, 91.71.

IT 335-49-9P, Butane, 1,1,1-trichloroheptafluoro-
RL: PREP (Preparation)
(preparation of)

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)

Cl₃C-CF₂-CF₂-CF₃

L17 ANSWER 37 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1962:73083 CAPLUS Full-text

DOCUMENT NUMBER: 56:73083

ORIGINAL REFERENCE NO.: 56:14066d-i,14067a-i,14068a-d

TITLE: Synthesis and some novel reactions of
α,α-dichloroperfluoroalkyl esters

AUTHOR(S): Brace, Neal O.; McCormack, W. B.

CORPORATE SOURCE: E. I. Du Pont De Nemours and Co., Wilmington, DE

SOURCE: Journal of Organic Chemistry (1961), 26, 5091-9

CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE: Journal

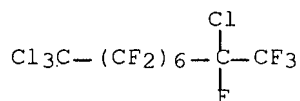
LANGUAGE: Unavailable

AB Photochlorination of α,α-dihydroperfluoroalkyl perfluoroalkanoates at 100-40° gave 90% of the corresponding α,α-dichloro ester, distillable in vacuo. Thermal or catalytic cracking of the α,α-dichloro ester gave 2 perfluoro acid chlorides (same or different) in high yield. The α,α-dichloro ester reacted with H₂O, amides, or esters. The α,α-dichloro ester was, in effect, a dimeric acid chloride. Pyrolysis of α,α-dichloroperfluoroalkyl trichloroacetates gave trichloroacetyl chloride (I) and a perfluoroalkanoyl chloride, while bis(α,α-dichloroperfluoroalkyl) carbonates were cleaved in 2 steps to COCl₂ and 2 moles of the perfluoro acid chloride. These reactions provided a convenient

route to ω -chloroperfluoroalkanoic acids and their carboxyl linked derivs. The general methods for the photochlorination of α, α, ω -trihydroperfluoroalkanol esters was described. The compds. obtained were $\text{Cl}(\text{CF}_2)_8\text{Cl}$ (II), $\text{Cl}(\text{CF}_2)_8\text{CO}_2\text{CHCl}(\text{CF}_2)_8\text{Cl}$ (III), and $\text{Cl}(\text{CF}_2)_8\text{CO}_2\text{CCl}_2(\text{CF}_2)_8\text{Cl}$ (IV). Cl (195 g.) was fed into 245.6 g. $\text{H}(\text{CF}_2)_2\text{CO}_2\text{CH}_2(\text{CF}_2)_2\text{H}$ over 4-hrs. at $115-28^\circ$; the HCl liberated was titrated with 2N NaOH (82% yield). A sample of the reaction product showed a CO band at 5.47μ . The hydrolyzable Cl was 88% of theory. Cl (14 g.) was fed into the mixture again 0.5 hr. at $116-23^\circ$ with 7 g. being used up. The total Cl was 145.5 g. The product weighed 311 g. $\text{Cl}(\text{CF}_2)_4\text{CO}_2\text{CCl}_2(\text{CF}_2)_4\text{Cl}$ was obtained in 88% yield by distillation in a 3-ft. spinning band column, b11 $97-101^\circ$, n25 D 1.348-1.354. In addition 13 g. forerun, b11 $46-58^\circ$, and high-boiling cuts (3.4 g.), b11 $112-16^\circ$, n25 D 1.3645, and 7.2 g., b11 $136-60^\circ$, n25 D 1.3693, were obtained. Photochlorination of 32 g. $\text{H}(\text{CF}_2)_8\text{CO}_2\text{CH}_2(\text{CF}_2)_8\text{H}$ 9.5 hrs. gave $\text{Cl}(\text{CF}_2)_8\text{COCl}$, b14 $68-70^\circ$, n25 D 1.3253, and 43% IV, b0.8 $126-7^\circ$, n25 D 1.339. Cl (65 g.) bubbled in 2 hrs. through 192 g. 1,1,9-trihydroperfluorononyl 9-chloroperfluorononanoate (V) at $110-105^\circ$ gave II, III and an isomer, and IV. Cl reacted at a rapid rate with 96 g. III during 15 min. to give IV. Reaction of 35 g. Cl with 348 g. V 3 hrs. at $123-65^\circ$ gave 25% of the theoretical amount of HCl . No Cl passed through unchanged. The next day Cl was fed in again 6.5 hrs. at $170-2^\circ$; a total of 110 g. Cl was used and 20 g. passed through. A total of 94% of the theory HCl was titrated. The product (370 g.) contained 22% II, 112 g. $\text{Cl}(\text{CF}_2)_8\text{COCl}$ (which contained a small amount of 9-chloroperfluorononanoyl fluoride), b200 137° , n25 D 1.3252, and 3.7% 1,1,1,8-tetrachloroperfluorononane, b1.1 63° , m. $48-51^\circ$. AcCl (80 g.) added at 20° to 432 g. $\text{H}(\text{CF}_2)_8\text{CH}_2\text{OH}$ [containing about 0.09 mole bis(4-hydroperfluorobutyl)carbinol] gave 463 g. 1,1,9-trihydroperfluorononyl acetate (VI) distilled, b20 110° . On photochlorination of 326 g. VI in a cell under a reflux condenser at -70° treated 2 hrs. at $100-15^\circ$ with 192 g. Cl fed in. and 8 hrs. at $130-40^\circ$ gave the 240 g. $\text{ClCO}_2\text{CCl}_2(\text{CF}_2)_8\text{Cl}$ (VII), b1.4 115° , n25 D 1.3764, m. $30-3^\circ$, 74 g. $\text{Cl}(\text{CF}_2)_8$, COCl (containing small amount of $\text{CCl}_3\text{CO}_2\text{H}$), and 18 g. I. The starting ester, bis(1,1,5-trihydroperfluoropentyl)oxalate (VIII), b22 159° , n25 D 1.3398, was prepared by ester exchange of $\text{H}(\text{CF}_2)_4\text{CH}_2\text{OH}$ with $(\text{CO}_2\text{Me})_2$. Diester in 75% conversion, and a small amount of monomethyl ester were isolated. VIII (135 g.) treated with Cl as above gave 150.8 g. product, containing a mixture of dichloro esters, possibly 5,5'-dichloro, 1,5'-dichloro, and 1,1'-dichloro derivs. of VIII, 5-hydroperfluoropentanoyl chloride, b200 $50-3.5^\circ$, n25 D 1.3148, $\text{Cl}(\text{CF}_2)_2\text{COCl}$, b200 $57-8.5^\circ$, n25D 1.3220, and an acid chloride mixture, b194 $128-9^\circ$, n25 D 1.3631. A product (5.1 g.), b25 $88-90^\circ$, n25 D 1.3669, was also obtained, corresponding to a mixed, monochlorinated half ester of oxalyl chloride. 1,1,7-Trihydroperfluoroheptyl perfluorobutyrate (IX) (154.9 g.) chlorinated by the above described method gave 152.4 g. product, mostly $[\text{CF}_3(\text{CF}_2)_2\text{CO}_2\text{CH}(\text{CF}_2)_6\text{Cl}]_2$. Carbonates of α, α, ω -trihydroperfluoroalkanols were prepared by treating equivalent amts. of alc. and $\text{C}_5\text{H}_5\text{N}$ with a slight excess of COCl_2 at $30-5^\circ$, decomposing with ice, extracting with CH_2Cl_2 or CHCl_3 , washing, and distilling. The following $[\text{H}(\text{CF}_2)_n\text{CH}_2\text{O}]_2\text{CO}$ were obtained (n, compound number, % yield, b.p./mm., n25 D and d20 given): 1, -, 19.2, $85^\circ/18$, 1.3368, 1.592; 2, X, 86.8, $127^\circ/17$, 1.3267, 1.718; 3, XI, 90.4, $90-2^\circ/0.2$, 1.3240, 1.793; 4, -, 81, $143-8^\circ/1$ (m. $50-3^\circ$), -, -. X (30.03 g.) irradiated with ultraviolet light at $65-70^\circ$ with passage of Cl for 7 hrs. gave 40.61 g. crude product. The crude ester was distilled to give 5 fractions. Combination of the volatile fractions and redistn. of 14.1 g. gave 12 g. $\text{Cl}(\text{CF}_2)_4\text{COCl}$. Further distillation of the other fractions raised the yield of $\text{Cl}(\text{CF}_2)_4\text{COCl}$ to 76.5%. XI (434 g.) similarly treated with Cl under irradiation gave 82 % bis(1,1,7-trichloroperfluoroheptyl) carbonate, m. 47° . This product was pyrolyzed by heating at $165-225^\circ$ at atmospheric pressure to give 431.2 g. $\text{Cl}(\text{CF}_2)_6\text{COCl}$, b. 142° , n25 D 1.3267. $\text{Cl}(\text{CF}_2)_4\text{CO}_2\text{CCl}_2(\text{CF}_2)_4\text{Cl}$ (119.5 g.) treated in 25 ml. with 25 g. alc. (HCl was rapidly evolved), and the product distilled gave 122 g. Et

5-chloroperfluoropentanoate, b. 146°, n₂₅ D 1.3347. 1,1,11-Trihydroperfluoroundecyl alc. (585.2 g.) with 224 g. Ac₂O and 85 g. C₅H₅N gave 81% 1,1,11-trihydroperfluoroundecyl acetate (XII), b_{0.5} 80-1°, m. 43-9°. Photochlorination of 513 g. XII in ultraviolet light gave the trichloro derivative, m. 143-8°. Addition of alc. at 135° under reflux for 13 hrs. and distillation of the product gave 434.7 g. Et 11-chloroperfluoroundecanoate (XIII), b_{2.8} 94°. Cl(CF₂)₄CO₂CCl₂(CF₂)₄Cl (5 g.) and 3.88 g. 1,1,5-trihydroperfluoropentyl alc. (XIV), heated to 186° gave 3.25 g. Cl(CF₂)₄COCl. Further distillation gave 2.1 g. XIV, b₂₀ 57-8°, n₂₅ D 1.3168, 1.17 g. of an intermediate fraction containing alc. and an ester, and 1.16g. ClOFl₁₀H₃ClO₂, b₂₀ 99°, n₂₅ D 1.3225. Heating the α,α-dichloro ester alone gave 10% cleavage in 3 hrs., 18% in 4 hrs., 27% in 4.5 hrs., and 36% in 5.25 hrs. under the above conditions; the bath at 200° caused 83% total cleavage in 2.5 hrs. of distillation 1,1-Dihydroperfluorobutanol (20 g.) and 30 g. Cl(CF₂)₄COCl heated 8 hrs. at 100-48° under total reflux gave 6.4 g. unchanged alc., and 14.8 g. 1,1-dihydroperfluorobutyl 5-chloroperfluoropentanoate (XV), b₁₀₀ 105-6°, n₂₅ D 1.3117. Photochlorination of 21 g. XV as above 5 hrs. at 120-40° gave 78% HCl and 18.7 g. 1,1-dichloroperfluorobutyl 5-chloropentanoate (XVI), b₁₃ 72°, n₂₅ D 1.335. Ester exchange of 10.6 g. XVI with 9.28 g. XIV occurred smoothly in 5.5 hrs. at 144-50° to give 4.5 g. H(CF₂)₄CH₂OH (97%), an intermediate cut, and 8.6 g. ClOFl₁₀H₃ClO₂. Analysis of the trap liquids showed that only perfluorobutyryl chloride was present in the traps. Not more than 10% of 1,1,5-trihydroperfluoropentyl perfluorobutyrate was formed in the reaction. Cl(CF₂)₄CO₂CCl₂(CF₂)₄Cl (5.98 g.) and 2.68 g. AgCN warmed to 214° and refluxing for 1 hr. gave 5.4 g. of the thermally cleaved product. Cl(CF₂)₄CO₂(CF₂)₄Cl (5 g.), 1.7 g. NaF, and 5 cc. tetramethylene sulfone heated to 100° gave 76% yield of Cl(CF₂)₄COCl. Tetramethylene sulfone (80 g.), 47 g. Cl(CF₂)₈CO₂CCl₂(CF₂)₈Cl, and 8.6 g. NaF heated 3 hrs. at 150° and distilled gave 85% yield 9-chloroperfluoronononyl fluoride, b₂₀₀ 112°, n₂₅ D 1.3040. Cl(CF₂)₆CO₂CCl₂(CF₂)₆Cl (50 g.) and 15.1 g. CoF₂ heated 4 hrs. at 150° gave 97% 7-chloroperfluoroheptanoyl fluoride. Ethylenimine (1.08 g.) and 2.55g. NEt₃ in 25 cc. C₆H₆ treated in 0.5 hr. at 0-4° with 10 g. Cl(CF₂)₆CO₂CCl₂(CF₂)₆Cl, stirred 2 hrs. at 0-10°, and separation gave 8.3 g. Cl₅F₁₂H₂O₂N₂Cl₂O (XVII), m. 176-7° (decomposition). XVII was readily soluble in H₂O and strongly surface-active. The C₆H₆ filtrate gave 3 g. of a yellow oil. The tetrahydrofuran also gave 2.1 g. of a viscous oil probably polymeric material, postulated as a low-mol.-weight telomer having triethylammonium chloride and H end groups. Me perfluorooctanoate (30 g.) was photochlorinated 3 hrs. at 42° to give 69% trichloromethyl perfluorooctanoate, b₅ 60°, n₂₅ D 1.3351, and 2 g. perfluorooctanoyl chloride, b. 128-30°, n₂₅ D 1.3011. Cl(CF₂)₄COCl (25 g.) in 100 cc. CCl₄ stirred while 0.8 g. H₂O added at 25°, the mixture heated to 42°, 5 cc. Et₂O added, the solution left overnight, part of the solvents removed in 4 hrs., and the residue crystallized gave 23 g. 9-chloroperfluorononanoic acid (XVIII), m. 84-5° (CCl₄). Cl(CF₂)₈CO₂CCl₂(CF₂)₈Cl (47.4 g.) and 1.7 g. H₂O heated 1 hr. at 130-200° with evolution of HCl gave 29.8 g. XVIII and the remaining oil fractionated gave 7 g. Cl(CF₂)₄COCl and 1.8 g. impure XVIII. Cl(CF₂)₄CO₂CCl₂(CF₂)₄Cl (2 g.) in 10 cc. Et₂O treated with dry NH₃, evaporated, washed, and recrystd. gave 1.47 g. 5-chloroperfluoropentanamide (XIX). Cl(CF₂)₄COCl (1.38 g.) in 10 cc. C₆H₆ saturated with NH₃ with the temperature rising to 50° gave 93% XIX. An equimolar mixture of 9-hydroperfluorononanoic acid and H(CF₂)₈CH₂OH heated 6 hrs. at 160° gave H(CF₂)₈CO₂CH₂(CF₂)₈H, b. 151.5°, m. 46.5-7.0°. Cl(CF₂)₈COCl (110 g.) and 175 g. H(CF₂)₈CH₂OH heated overnight at 156° gave 99% HCl; the product (287.2 g.) was fractionated to give 80 g. mixed alcs., including 190 g. 1,1,9-trihydroperfluorononyl 9-chloroperfluorononanoate (XX), b₅ 151-2°, m. 55°. Cl(CF₂)₈CO₂CCl₂(CF₂)₈Cl (166 g.) and 195 g. H(CF₂)₄CH₂OH was heated 45 min. at 136-92° (no evolution of HCl), then heated overnight at 170° after addition of a small pellet of NaF and 10 drops NEt₃. Distillation of the product gave 19% 9-chloroperfluorononanaldehyde, b₁₉ 76-7°, n₂₅ D 1.3165, and 234 g. XX.

IT 754-90-5P, Nonane, 1,1,1,8-tetrachlorohexadecafluoro-
 RL: PREP (Preparation)
 (preparation of)
 RN 754-90-5 CAPLUS
 CN Nonane, 1,1,1,8-tetrachlorohexadecafluoro- (7CI, 8CI) (CA INDEX NAME)



L17 ANSWER 38 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1956:63414 CAPLUS Full-text

DOCUMENT NUMBER: 50:63414

ORIGINAL REFERENCE NO.: 50:11814g-i

TITLE: The chemistry of perfluoro ethers. IV. Steric and polar displacements of nuclear spin resonances

AUTHOR(S): Van Dyke Tiers, Geo.

CORPORATE SOURCE: Minnesota Mining & Mfg. Co., St. Paul

SOURCE: Journal of the American Chemical Society (1956), 78, 2914-15

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

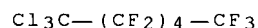
LANGUAGE: Unavailable

AB cf. C.A. 50, 9998f. Factors, apparently steric in origin and quite unrelated to the electronegativities of substituents, are of considerable importance in determining the positions of nuclear spin resonance (NSR) lines in fluorocarbon derivs. Pos. δ^* values [$\delta^* = 106(\text{HC}_4\text{F}_8 - \text{Hobs.})/\text{HC}_4\text{F}_8$] (i.e., less shielding of the F nucleus by its electron cloud) indicate greater electron-withdrawing power than is shown by the perfluorocyclobutyl group for the NSR spectra. The apparent electron-withdrawing power of the substituents X and Y in compds. of the type XCF_2Y (as judged by the NSR δ^* value for the F atoms of the CF_2 group) is in the following order of effectiveness: $\text{F} \gg \text{CCl}_3, \text{CH}_2\text{I} > \text{COCl}, \text{CH}_2\text{Br} > \text{CF}_2\text{CCl}_3, \text{CH}_2\text{Cl} > \text{C}_2\text{F}_5, \text{C}_3\text{F}_7 > \text{CF}_3 > \text{CF}_2\text{H} > \text{H}$. Addnl. observations indicate the following series of activities: $\text{I} > \text{Br} > \text{Cl} > \text{F} > \text{CF}_2\text{I} > \text{CF}_2\text{Br} > \text{CF}_2\text{Cl} > \text{CF}_3$. Conclusion: Net electron displacement away from F and H nuclei can be induced by repulsive interactions with neighboring groups in the mol.

IT 307-28-8, Hexane, 1,1,1-trichloroundecafluoro- 335-49-9,
 Butane, 1,1,1-trichloroheptafluoro-
 (magnetic resonance absorption by)

RN 307-28-8 CAPLUS

CN Hexane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,6-undecafluoro- (9CI) (CA INDEX NAME)



RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)

Cl₃C—CF₂—CF₂—CF₃

L17 ANSWER 39 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1956:52441 CAPLUS Full-text

DOCUMENT NUMBER: 50:52441

ORIGINAL REFERENCE NO.: 50:9998f-h

TITLE: The chemistry of perfluoro ethers. II. Ether cleavage with simultaneous replacement of α -fluorine by chlorine

AUTHOR(S): Van Dyke Tiers, George

CORPORATE SOURCE: Minnesota Mining & Mfg. Co., St. Paul

SOURCE: Journal of the American Chemical Society (1955), 77, 6703-4

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

AB cf. C.A. 50, 6444d. (C₄F₉)₂O (20 g.) and 8.0 g. AlCl₃ heated 16 hrs. at 175° in a rocking autoclave, the mixture warmed and partially evacuated, and the volatile materials condensed in a liquid air trap gave 2.3 g. C₃F₇COCl (I), nD₂₅ 1.2880, which gave with NH₃ C₃F₇CONH₂; the filtered reaction product distilled gave a mixture of 6.0 g. (C₄F₉)₂O and 2.8 g. C₃F₇CCl₃ (II). A similar run during 13 hrs. at 150° gave 45% conversion with 8% yield of II and no I; some C₂Cl₆ remained in the distillation residues. (C₆F₁₃)₂O (110 g.) and 35 g. AlCl₃ heated 15 hrs. at 230°, and the filtered reaction mixture distilled gave 20.6 g. C₅F₁₁COCl (III), b. 87-93°, nD₂₅ 1.2992 (C₅F₁₁CONH₂ was obtained with NH₃), 28.5 g. C₅F₁₁CCl₃ (IV), b. 143°, nD₂₅ 1.3383, and 16 g. unchanged (C₆F₁₃)₂O. (C₆F₁₃)₂O (25 g.) and 8 g. AlCl₃ gave similarly during 14 hrs. at 185° with 77% conversion 51% III and 63% IV.

IT 307-28-8P, Hexane, 1,1,1-trichloroundecafluoro- 335-49-9P
 , Butane, 1,1,1-trichloroheptafluoro-

RL: PREP (Preparation)
 (preparation of)

RN 307-28-8 CAPLUS

CN Hexane, 1,1,1-trichloro-2,2,3,3,4,4,5,5,6,6,6-undecafluoro- (9CI) (CA INDEX NAME)

Cl₃C—(CF₂)₄—CF₃

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)

Cl₃C—CF₂—CF₂—CF₃

L17 ANSWER 40 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1956:19902 CAPLUS Full-text

DOCUMENT NUMBER: 50:19902
 ORIGINAL REFERENCE NO.: 50:4057f-i,4058a
 TITLE: Highly halogenated alkanes derived from
 fluorine-containing alcohols
 AUTHOR(S): McBee, E. T.; Campbell, D. H.; Roberts, C. W.
 CORPORATE SOURCE: Purdue Univ., Lafayette, IN
 SOURCE: Journal of the American Chemical Society (1955), 77,
 3149-51
 CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

AB By the method of Tiers, et al. (C.A. 49, 1619e), were prepared the following compds.: PhSO₃CH₂CF₃, b₁ 91°, n_D20 1.4582, d₂₅ 1.403; p-MeC₆H₄SO₃CH₂CF₃, m. 52.5-53°; PhSO₃CH₂CF₃, b₁ 108°, n_D20 1.4240, d_{26.5} 1.508. The appropriate p-toluenesulfonate refluxed 4 hrs. in (HOCH₂CH₂)₂O with 50% excess K halide, the mixture distilled, and the crude product washed twice with cold H₂O, dried with Drierite, and fractionated gave the following halides: CF₃CH₂Br (I), 97.2%; C₃F₇CH₂Cl (II), 95.5%; C₃F₇CH₂Br, 91.2%; C₃F₇CH₂I (III), 82.7%; C₂F₅CH₂Br, 81%, b. 46.5° n_D20 1.3204, d₂₅ 1.756; C₂F₅CH₂I, 81%, b. 70.5°, n_D20 1.3728, d₂₅ 2.038; C₂F₅CH₂Cl (IV), 75%, b. 27.2°, n_D20 1.292, d₂₅ 1.395. II (177g.) passed at 250° with Cl through a 2 + 80-cm. Pyrex tube and the condensate distilled gave 16 g. II; 51 g. C₃F₇CHCl₂, b. 76.5°, n_D20 1.3212, d₂₅ 1.612; and 127 g. C₃F₇CCl₃, b. 96.5°. I (405 g.) gave similarly at 220-40° 124 g. I, and 75 g. CF₃CB₂Cl₂, b. 69.0°, 69.2°, n_D20 1.3977, d₂₀ 1.950; an addnl. large fraction, b. 42-51°, could not be separated by rectification on a 50-plate column. IV (54 g.) chlorinated similarly at 250° gave 20 g. C₂F₅CHCl₂, b. 45.5°, n_D20 1.3196, d₂₅ 1.543; 35 g. unchanged IV, and some C₂F₅CCl₃, b. 70.5° n_D20 1.3527, d₂₀ 1.637. III (256 g.) added during 2.5 hrs. to 80 g. Zn dust in 500 cc. refluxing glacial AcOH, the mixture heated 2 hrs. with stirring, and the trap condensate distilled gave 126 g. crude C₂F₅CF₂CH₂, b. 3-7°, which treated in 4 Carius tubes with 32 g. Cl during 5 days at room temperature yielded 55 g. C₂F₅CClFCH₂Cl, b. 72°, n_D20 1.3386, d₂₀ 1.471. C₃F₇CCl₃ (249 g.), 155 g. SbF₃, and 130 g. SbCl₃ heated 12 hrs. in a stainless steel autoclave to 210° and the mixture cooled, washed with concentrated HCl, and then H₂O, dried, and distilled yielded 168 g. C₃F₇CCl₂F, b. 62.8° n_D20 1.3067, d₂₅ 1.633.

IT 335-49-9P, Butane, 1,1,1-trichloroheptafluoro-
 RL: PREP (Preparation)
 (preparation of)

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)

Cl₃C-CF₂-CF₂-CF₃

L17 ANSWER 41 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1955:8061 CAPLUS Full-text
 DOCUMENT NUMBER: 49:8061
 ORIGINAL REFERENCE NO.: 49:1619e-i
 TITLE: 1,1-Dihydrogenperfluoroalkyl halides
 AUTHOR(S): Tiers, Geo. V. D.; Brown, Harvey A.; Reid, Thomas S.
 CORPORATE SOURCE: Minnesota Mining and Manufg. Co., St. Paul, MN
 SOURCE: Journal of the American Chemical Society (1953), 75,
 5978-9
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 49:8061

AB A convenient, general method is described for the preparation of 1,1-dihydrogenperfluoroalkyl halides (I) from the corresponding alcs., via the p-toluenesulfonyl esters. Good yields were obtained without the use of special apparatus C3F7CH2OH (87 g.), 88 g. p-MeC6H4SO2Cl, and 150 cc. H2O treated during 0.5 hr. at 50-65° with 20 g. NaOH in 80 cc. H2O, the mixture stirred vigorously until neutral, cooled, extracted with Et2O, and the extract washed with concentrated NH4OH and then with H2O and evaporated on the steam bath yielded 131 g. (85%) p-MeC6H4SO3CH2C3F7 (II), m. 28-30°, nD25 1.4252; the analytical sample was recrystd. several times from petr. ether, m. 30-30.5°. Similarly were prepared: p-MeC6H4-SO3CH2CF3, 78%, m. 41°, nD25 1.4635; and p-MeC6H4SO3CH2C5F11, 71%, m. 54-5°. I (354.2 g.), 149.9 g. NaI, and 300 cc. diethylene glycol heated 2 hrs. at 150-220°, and the collected distillate (280 g.) washed several times with cold t H2O, dried over Drierite, and fractionated gave 270 g. (84.0%) C3F7CH2I, b740 91°, b760 92°, nD25 1.3603, d25 2.019. Similarly were prepared (% yield, b.p., nD25, and d25 given): CF3CH2I (III), 81, 55.0°, 1.3981, 2.142; C3F7CH2Cl, 78, 54°, 1.2906, 1.523; C3F7CH2Br, 70, 69.1°, 1.3166, 1.780; C5F11CH2Cl, 78, 103.6°, 1.2993, 1.651; C5F11CH2I, 87, 133°, 1.3500, 2.018. C3F7CH2Cl (19.8 g.) chlorinated by the method of Henne and Whaley (C.A. 36, 1009.4) gave about 15 g. (60%) pure C3F7CCl3, b732 95°, b760 96.2°, nD25 1.3441, d25 1.688, and a small amount of an unidentified higher boiling material. The CH stretching band is quite weak in the infrared spectra of the I, appearing as a doublet at 3.3-3.4 μ; at the liquid thickness used (about 0.007 mm.) only II gave a well defined CH stretching band. In contrast, a fairly strong band is found at 7.0 μ in each I spectrum; it appears to be due to a deformation of the CH2 group. The fairly strong band at 7.4 μ in each I spectrum, except II, is associated with the CF3 group attached to a saturated, H-free C atom.

IT 335-49-9P, Butane, 1,1,1-trichloroheptafluoro-

RL: PREP (Preparation)
(preparation of)

RN 335-49-9 CAPLUS

CN Butane, 1,1,1-trichloro-2,2,3,3,4,4,4-heptafluoro- (9CI) (CA INDEX NAME)

Cl3C-CF2-CF2-CF3

L17 ANSWER 42 OF 42 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1952:14342 CAPLUS Full-text

DOCUMENT NUMBER: 46:14342

ORIGINAL REFERENCE NO.: 46:2484h-i,2485a-d

TITLE: The preparation of hexafluoroacetone

AUTHOR(S): Henne, Albert L.; Shepard, John W.; Young, Evan J.

CORPORATE SOURCE: Ohio State Univ., Columbus

SOURCE: Journal of the American Chemical Society (1950), 72, 3577-9

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 46:14342

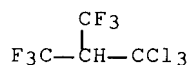
AB Repeated chlorination of Me2C:CHCl, f.p. -78.7°, b. 158°, d420 1.3319, nD20 1.4980, and its chlorination products, CHCl2CMe:CH2, b. 105-28°, CH2ClCMe:CHCl, b. 128-35°, (CH2Cl)2C:CH2, b. 135-41°, and Me2CClCH2Cl, b. 141-7°, gives 43% CH2ClCMeClCHCl2, b20 78-85°. KOH in cold 1:1 MeOH-H2O gives the

lachrymator $\text{CH}_2\text{ClCMe:CCl}_2$, which chlorinates to $\text{CH}_2\text{ClCMeClCCl}_3$ (I), f.p. 58-63°, b10 98-102°, b760 205-10°. Removal of HCl gives $\text{CCl}_3\text{CMe:CHCl}$, f.p. -70.0°, b. 174.8°, d420 1.4528, nD20 1.5129, easily hydrolyzed. With SbF_3 this gives 70% $\text{CF}_3\text{CMe:CHCl}$ (II), f.p. -120.3°, b. 46.4°, d420 1.2395, nD20 1.3489, A Rf 1.1. It is better to treat I with SbF_3 and Cl at 165° and 10-11 atmospheric to give 40% $\text{CF}_3\text{CMeClCH}_2\text{Cl}$ (III), b. 93.5°, d420 1.3899, nD20 1.3782, ARf 1.0, together with a mixture of II and $\text{CF}_3\text{C(CH}_2\text{Cl):CH}_2$, b. 64.1°, d420 1.2824, nD20 1.3520, ARf 0.9. A 2nd method of preparing III, more suitable for a small-scale synthesis, is from MeMgCl and $\text{CF}_3\text{CO}_2\text{Et}$ to give 97% of the azeotropic mixture $\text{EtOHCF}_3\text{C(OH)Me}_2$, b. 75-81°, which over P_2O_5 at 130° gives 97% $\text{CF}_3\text{CMe:CH}_2$, b. 6.7°. Chlorination in the dark in the presence of a little FeCl_3 at 0° gives III. III refluxed with alc. KOH gives II, which under the same conditions chlorinates to $\text{CF}_3\text{CMeClCHCl}_2$, b. 123.7°, d420 1.5201, nD20 1.4084, ARf 1.0. Removal of HCl gives $\text{CF}_3\text{CMe:CCl}_2$ (IV), b. 88.4°, d420 1.4248, nD20 1.9947, ARf 1.1. SbF_3 and Cl with HF at 55-130° and 10-20 atmospheric react with IV mixed with the residues from previous runs of this reaction to give $(\text{CF}_3)_2\text{CHMe}$ (V), f.p. -106.7°, b. 21.5°, d40 1.3725, nD2.9 1.2717, A Rf 1.1, and some $\text{CF}_3\text{CHMeCF}_2\text{Cl}$, b. about 55°, and $\text{CF}_3\text{CHMeCFCl}_2$, b. about 70°, which are retreated. Chlorination of V goes slowly in ultraviolet light to give $(\text{CF}_3)_2\text{CHCCl}_3$ (VI), b. 106.5-7.5°, d420 1.7095, nD20 1.3690, and $[(\text{CF}_3)_2\text{CHCCl}_2]_2$, m. 111.8-12.4°, which loses HCl to give $[(\text{CF}_3)_2\text{C:CCl}]_2$, b. 123°, d420 1.6838, nD20 1.3462, A Rf 1.2. Removal of HCl from VI with KOH in EtOH or MeOH-H₂O below 10° gives 50% $(\text{CF}_3)_2\text{C:CCl}_2$ (VII), f.p. -98.2°, b. 74.5°, d420 1.6429, nD20 1.3517, A Rf 1.2, and an unidentified compound, b. 127-30°, d420 1.4364, nD20 1.3696. In iso-PrOH only VII is formed. VI with KOH in H₂O-(HOCH₂CH₂)₂O gives 82.5% VII. VII with aqueous acid KMnO_4 gives the hydrate of $(\text{CF}_3)_2\text{CO}$, which with P_2O_5 gives the free ketone, b. -26°, and an unidentified liquid whose semicarbazone m. 190°. Properties are reported for $\text{CClF}_2\text{CMeClCH}_2\text{Cl}$, b. 131-2°, d420 1.4441, nD20 1.4326, A Rf 0.9; $\text{CClF}_2\text{CMe:CHCl}$, b. 86-7°, d420 1.3406, nD20 1.4023, A Rf 0.8; $\text{CF}_3\text{CMeClCCl}_3$, f.p. 115.6-16.4°, b. 148-9°; $\text{CF}_3\text{CMeClCF}_2\text{Cl}$, b. 75.3°, d420 1.5133, nD20 1.3440, A Rf 1.1; $\text{CF}_3\text{CMe:CF}_2$, b745 12.8-13.5°.

IT 382-23-0P, Propane, 1,1,1-trichloro-3,3,3-trifluoro-2-(trifluoromethyl)-
 RL: PREP (Preparation)
 (preparation of)

RN 382-23-0 CAPLUS

CN Propane, 1,1,1,3,3,3-hexafluoro-2-(trichloromethyl)- (9CI) (CA INDEX NAME)



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(FILE 'HOME' ENTERED AT 16:32:43 ON 11 OCT 2007)

FILE 'REGISTRY' ENTERED AT 16:32:50 ON 11 OCT 2007

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 L2 0 SEA SSS SAM L1
 D SAV
 ACT CHUKA/A

 L3 STR

L4 93925 SEA SSS FUL L3

L5 0 SEA SUB=L4 SSS SAM L1
L6 10 SEA SUB=L4 SSS FUL L1

FILE 'CAPLUS' ENTERED AT 16:37:43 ON 11 OCT 2007
L7 18 SEA ABB=ON PLU=ON L6

FILE 'REGISTRY' ENTERED AT 16:39:22 ON 11 OCT 2007
L8 STR
L9 STR L8
DIS
L10 STR
L11 6 SEA SSS SAM L10
L12 121 SEA SSS FUL L10
L13 58 SEA ABB=ON PLU=ON L12 AND F>5
L14 13 SEA ABB=ON PLU=ON L13 AND (C/ELS AND H/ELS AND F/ELS AND
CL/ELS AND 4/ELC.SUB)
L15 24 SEA ABB=ON PLU=ON L13 AND (C/ELS AND F/ELS AND CL/ELS AND
3/ELC.SUB)
L16 37 SEA ABB=ON PLU=ON L14 OR L15
L*** DEL 37 S L16

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L17 42 SEA ABB=ON PLU=ON L16

FILE 'CAPLUS' ENTERED AT 16:49:29 ON 11 OCT 2007
L18 0 SEA ABB=ON PLU=ON L7 AND L17
D QUE L7
D L7 IBIB ABS HITSTR TOT
D QUE L17
D L17 IBIB ABS HITSTR TOT